FACILITY NAME: RE Jackson

FACILITY ID NUMBER: 2248

1) DATE OF INSPECTION 7/30/09 CLASS 4 OR (0)

FACILITY: CLOSED EMPTY? _____ CLOSED OCCUPIED? X

IF OCCUPIED, BY WHOM? Phoenix USA Inc

ENVIRONMENTALIST MGB DATE ENTERED, INITIALS 9/3/09 KC

2) DATE OF INSPECTION _____ CLASS 4 OR 0

FACILITY: CLOSED EMPTY? _____ CLOSED OCCUPIED? _____

IF OCCUPIED, BY WHOM? _____

ENVIRONMENTALIST _____ DATE ENTERED, INITIALS _____

3) DATE OF INSPECTION _____ CLASS 4 OR 0

FACILITY: CLOSED EMPTY? _____ CLOSED OCCUPIED? _____

IF OCCUPIED, BY WHOM? _____

ENVIRONMENTALIST _____ DATE ENTERED, INITIALS _____

4) DATE OF INSPECTION _____ CLASS 4 OR 0

FACILITY: CLOSED EMPTY? _____ CLOSED OCCUPIED? _____

IF OCCUPIED, BY WHOM? _____

ENVIRONMENTALIST _____ DATE ENTERED, INITIALS _____

DATED, DETAILED COMMENTS:

3-12

ELKHART COUNTY GROUND WATER PROTECTION PROGRAM
REGISTRATION AND INSPECTION FORM

Facility Name RE Jackson Co Inc.			Facility I.D. Number 2248		Date 2/11/00
Address 53217 Marina Dr			Contact Name Craig Gordon		
City Elkhart	Zip 46514	Township 02	Phone Number 264-7557		NAICS 332321

Purpose: (check all that apply)

Routine	☒	Registration	☐
Reinspection	☐	Spill	☐
Complaint	☐	Other	☐

Additional Information: (check all that apply)

Hazardous Waste Inspected: SQG ☐ LQG ☐ TSD ☐ Unknown ☐

SARA Title III:
- Emergency Planning (EHS) ☐
- Toxic Chemical Release Reporting ☐
- Community Right-To-Know Requirements ☐
- Unknown ☐

Registration Exemption: (check all that apply)

- No on-site wastewater disposal system ☐
- Store < 100 kg/mo. of hazardous/toxic substances ☐
- Resale of unopened products ☐
- Laboratory ☐

The items marked below identify violations of the Elkhart County Ground Water Protection Ordinance 99-250. All violations should be corrected as soon as possible, but no later than the compliance time indicated under each violation. Failure to comply may result in the assessment of fines. **Prior to the indicated compliance time written requests for the extension of compliance times or appeals regarding this inspection may be directed to the Elkhart County Health Department, 4230 Elkhart Road, Goshen, IN, 46526, (219) 875-3391.**

Registration

11 Registered on-site wastewater disposal systems (5.A.) **(Immediate compliance)**

System 1: Type Septic Flow _____
Location Front of Bldg

System 2: Type Septic Flow _____
Location Back of Bldg

System 3: Type _____ Flow _____
Location _____

System 4: Type _____ Flow _____
Location _____

System 5: Type _____ Flow _____
Location _____

System 6: Type _____ Flow _____
Location _____

12 Registered hazardous/toxic materials storage area (5.B.) **(Immediate compliance)**

13 Notified ECHD of changes to on-site wastewater disposal system or hazardous/toxic substances storage area (RR 2.C., RR 2.D.) **(Immediate compliance)**

On-site Wastewater Disposal System

14 Furnished a wastewater characterization for each on-site wastewater disposal system (6.) **(30 days to comply)**

Inspections

15 Upon notice of a violation, correct the violation as requested (12.B.) **(Immediate compliance)**

16 Provided requested information to determine compliance with ordinance (13.C.) **(Immediate compliance)**

Indoor Storage of Hazardous/Toxic Substances

17 Toxic/hazardous substances located in a manner to prevent a spill onto the ground (RR 4.B.) **(7 days to comply)**

18 Toxic/hazardous substances located in a manner to prevent a spill into a drain that is connected to an on-site wastewater disposal system (RR 4.B.) **(7 days to comply)**

Outside Storage of Hazardous/Toxic Substances

19 Storage on an impervious underlying base (RR 4.A.) **(7 days to comply)**

20 Storage in a containment system with adequate capacity (RR 4.A.) **(14 days to comply)**

21 Proper maintenance of containment system to protect integrity and capacity (RR 4.A.) **(14 days to comply)**

22 Proper removal or disposal of spilled material and accumulated precipitation (RR 4.A.) **(7 days to comply)**

23 Storage in product-tight containers (RR 4.C.) **(7 days to comply)**

24 Controlled drainage of precipitation in the containment system (RR 4.D.) **(7 days to comply)**

25 Storage in secondary containment (RR 4.A.) **(14 days to comply)**

Temporary Storage Areas

26 Storage on an impervious underlying base (RR 4.H.) **(7 days to comply)**

27 Storage does not exceed two (2) business days (RR 4.H.) **(2 days to comply)**

28 Spill response plan (RR 4.H.) **(7 days to comply)**

Spills

29 Spill of a toxic or hazardous substance (4.) **(Immediate compliance)**

30 Discharge of process wastewater into or above an aquifer (4.) **(Immediate compliance)**

31 Reportable spill due to quantity requirements (10.A. and 10.C.) **(Immediate compliance)**

32 Reportable spill damaging waters of the state (10.A. and 10.C.) **(Immediate compliance)**

33 Reportable spill due to no spill response (10.A.) **(Immediate compliance)**

34 Undertake spill response activities (10.C.)**(7 days to comply)**

Follow-up Action: Reinspection on or about ____/____/____

Routine (Priority Category) 1 (2) 3 0

Received by: Craig Gordon

Inspected by: Christie J Stelbe

*Compliance with the Elkhart County Ground Water Protection Ordinance does not exempt this facility from any other federal, state or local laws, codes or regulations.

1/00

White – ECHD 1 Yellow – Facility Pink – ECHD 2

3-1-0

ELKHARTY COUNTY GROUND WATER PROTECTION PROGRAM
TOXIC OR HAZARDOUS SUBSTANCE STORAGE AREAS
REGISTRATION INFORMATION

FACILITY NAME R E Jackson Co Inc FACILITY ID NUMBER 2248

Hazardous Substance	Type of Container							Maximum Amount Stored In Any Month			Storage Location		Date	
	D	B	C	A	T	U	O				Inside	Outside	Added	Deleted
Tooltex	X							275	gals	lbs	X		2/11/00	
MEK			X					10	gals	lbs	X		2/11/00	
Window Cleaner	X							110	gals	lbs	X		2/11/00	
Scotch-Seal			X					10	gals	lbs	X		2/11/00	
Xylene			X					5	gals	lbs	X		2/11/00	
Isopropyl Alcohol			X					5	gals	lbs	X		2/11/00	
Naphtha			X					5	gals	lbs	X		2/11/00	
Buckeye Degreaser	X							55	gals	lbs	X		2/11/00	
Hydraulic Oil		X						10	gals	lbs	X		2/11/00	
Waste oil		X						5	gals	lbs	X		2/11/00	
Paints			X					10	gals	lbs	X		2/11/00	
Degreasing Tank				X				100	gals	lbs	X		2/11/00	
									gals	lbs				
									gals	lbs				
									gals	lbs				
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Container type: D – drum, B – bucket, C – can, A – above ground storage tank, T – tote, U – underground storage tank, O – other

1/00

White – ECHD Yellow - Facility

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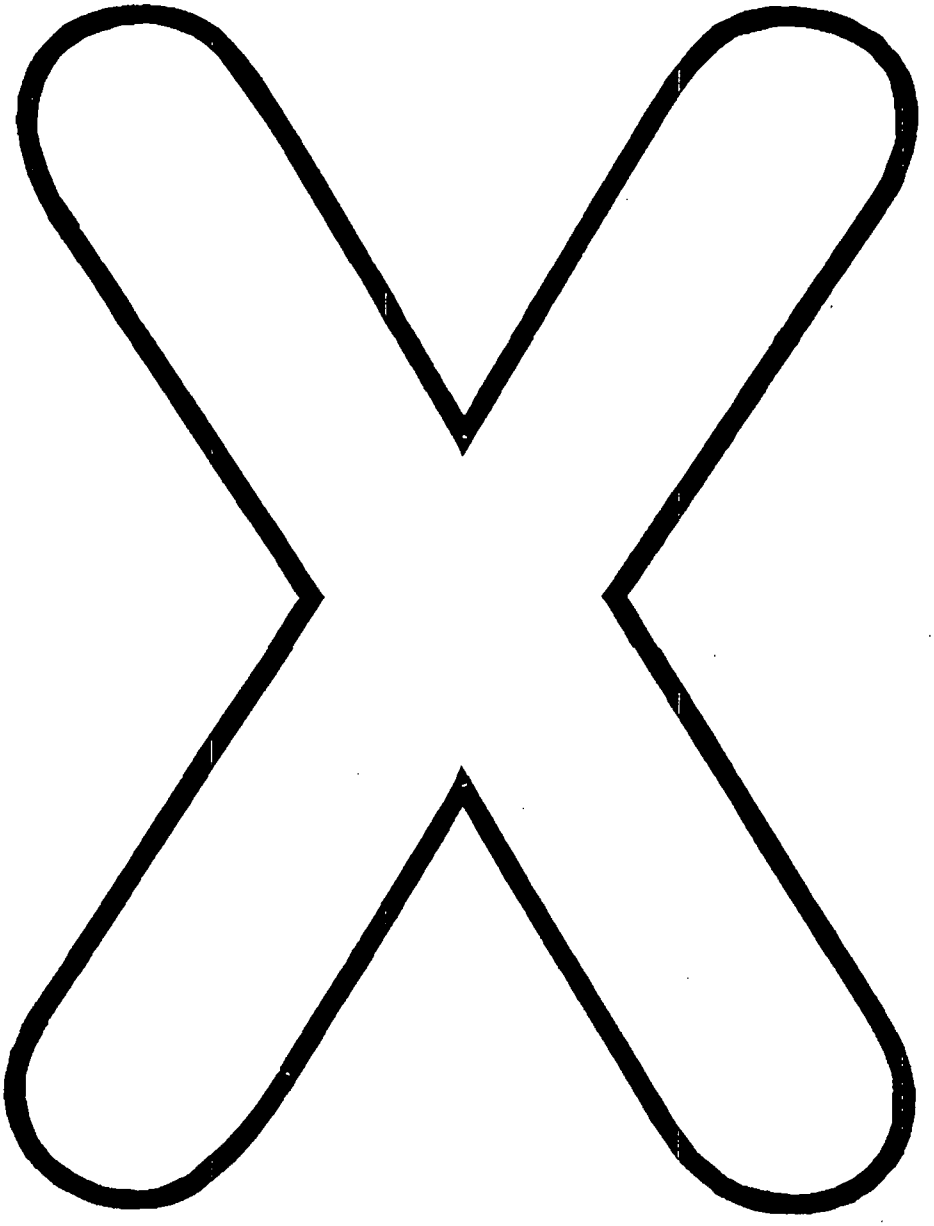

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1-11-44

ELKHART COUNTY
GROUND WATER PROTECTION ORDINANCE
INSPECTION FORM

ID NUMBER 2248 DATE 1/5/99 PAGE 1 OF 2

BUSINESS NAME Re Jackson Co Inc

ADDRESS 53217 Marina Dr Elkhart ZIP 46514

PHONE NUMBER 264-7557 CONTACT NAME Craig Gordon

CHECK ALL APPLICABLE:

[X] SEPTIC [ ] DRYWELL [ ] CITY SEWER [ ] OTHER

[X] FLOOR DRAINS underneath water test booth for windows

[X] STORAGE OF HAZARDOUS OR TOXIC SUBSTANCES (SEE INVENTORY)

[X] WASTE WATER CHARACTERIZATION PROVIDED / NEXT DUE 2/2000

EXEMPTIONS: [ ] REGISTRATION [ ] W.W.C. CLASS 1 NEXT INSPECTION 1/2000

CODE	INV.#	VIOLATION	COMPLIANCE TIME/DATE COMPLETED
		No violations	
	*	Note - adhesive should be in secondary containment or inside when in a liquid phase	
	2	- since it was solid due to cold weather - OK	

Christine J Wells
ENVIRONMENTALIST

Craig Gordon
FACILITY CONTACT PERSON

REINSPECTION DATE _____ INITIALS _____

*COMPLIANCE WITH THE ELKHART COUNTY GROUND WATER PROTECTION ORDINANCE DOES NOT EXEMPT THIS FACILITY FROM ANY OTHER FEDERAL, STATE OR LOCAL LAWS, CODES OR REGULATIONS.

ELKHART COUNTY
GROUND WATER PROTECTION ORDINANCE
HAZARDOUS/TOXIC SUBSTANCE INVENTORY

COMPANY NAME Re Jackson Co, Inc Date 1/5/99

	SUBSTANCE	LOCATION	AMT	CPCTY	CONTAINER	COMPLY
1.	~~Mixture~~ Waste Tooltex	inside - Stock room	1	55gal	drum	Y
2.	Scotch-Grip - Adhesive	outside	1	5gal	metal	Y
3.	MEK - Waste	Outside - in metal box	1	5gal	metal	Y
4.	Glass Cleaner	Inside - near clean room	2	30gal	plastic	Y
5.	Scotch Seal-Metal Sealant	" - near clean room	2	5gal	metal	Y
6.	Naphtha	" - near clean room	4	5gal	metal	Y
7.	Isopropanol	" - near clean room	2	5gal	metal	Y
8.	Scotch-grip adhesive	" - near clean room	1	5gal	metal	Y
9.	Xylene	" - near clean room	1	5gal	metal	Y
10.	Tooltex	" - Degreasing Area	1	55gal	drum	Y
11.	Degreaser	" - Degreasing Area	1	55gal	plastic	Y
12.	Degreasing Tank	" - Degreasing Are	2	~50gal	AST	Y
13.	Hydraulic oil	" - Maintenance	2	5gal	plastic	Y
14.	Waste oil	" - Maintenance	1	5gal	plastic	Y
15.	Various Paints	" - Maintenance	15	1gal	metal	Y
16.	Hydraulic oil	"	1	55gal	drum	Y
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7/92 REV/KSK
4/94 REV/REW

FACILITY COPY

3-10-97

ELKHART COUNTY
GROUND WATER PROTECTION ORDINANCE
INSPECTION FORM

ID NUMBER GW-2248 DATE 3-4-97 PAGE 1 OF 2

BUSINESS NAME RE Jackson

ADDRESS 53217 Marina Dr. Elkhart ZIP 46514

PHONE NUMBER 264-7557 CONTACT NAME Craig Gordon

CHECK ALL APPLICABLE:

[X] SEPTIC [ ] DRYWELL [ ] CITY SEWER [ ] OTHER

[X] FLOOR DRAINS from water test booth for windows

[X] STORAGE OF HAZARDOUS OR TOXIC SUBSTANCES (SEE INVENTORY)

[X] WASTE WATER CHARACTERIZATION PROVIDED / NEXT DUE 2/2000

EXEMPTIONS: [ ] REGISTRATION [ ] W.W.C. CLASS 1 NEXT INSPECTION 3/1998

CODE	INV.#	VIOLATION	COMPLIANCE TIME/DATE COMPLETED	
54	6,8	Outside storage without secondary containment.	4-4-97	3-12-97 MS

ENVIRONMENTALIST

Craig Gordon
FACILITY CONTACT PERSON

REINSPECTION DATE

INITIALS MK

*COMPLIANCE WITH THE ELKHART COUNTY GROUND WATER PROTECTION ORDINANCE DOES NOT EXEMPT THIS FACILITY FROM ANY OTHER FEDERAL, STATE OR LOCAL LAWS, CODES OR REGULATIONS.

1/92 AVT 4/94 12/94 REV/REW ECHD COPY

ELKHART COUNTY
GROUND WATER PROTECTION ORDINANCE
HAZARDOUS/TOXIC SUBSTANCE INVENTORY

COMPANY NAME RE Jackson

Date 3-4-91

	SUBSTANCE	LOCATION	AMT	CPCTY	CONTAINER	COMPLY
1.	Water Soluble Degreaser	Inside - Degreasing Area	1	55gal	drum	Y
2.	Cooling Oil - Tooltex	" "	1	55gal	drum	Y
3.	Degreasing tanks	" "	2	~500gal	AST	Y
4.	Hydraulic oils	Inside - Maint.	5	5gal	other	Y
5.	Various paints	" "	15	1gal	other	Y
6.	Waste Tooltex	Outside - north	1	55gal	drum	N
7.	Waste MEK	" "	1	55gal	drum	Y
8.	Unknown waste	" "	3	55gal	drums	N
9.	Glass Cleaner	Inside - Near Clean Rm	1	50gal	drum	Y
10.	Adhesive	" "	2	5gal	other	Y
11.	Isopropanol	Inside, " Cabinet	1	5gal	other	Y
12.	Naphtha	" "	1	5gal	other	Y
13.	MEK	" "	1	5gal	other	Y
14.	Adhesive	" "	2	5gal	other	Y
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ELKHART COUNTY
GROUND WATER PROTECTION ORDINANCE
INSPECTION FORM

2-6-95

ID NUMBER GW-2248 DATE 11-1-94 PAGE 1 OF 2

BUSINESS NAME RE Jackson

ADDRESS 53217 Marina Dr. Elkhart, IN ZIP 46514

PHONE NUMBER 264-7557 CONTACT NAME Sue McCoy

CHECK ALL APPLICABLE:

[✓] SEPTIC [ ] DRYWELL [ ] CITY SEWER [ ] OTHER (2 systems)

[✓] FLOOR DRAINS water test for windows

[✓] STORAGE OF HAZARDOUS OR TOXIC SUBSTANCES (SEE INVENTORY)

[✓] WASTE WATER CHARACTERIZATION PROVIDED / NEXT DUE 2/95 (VOC composite)

EXEMPTIONS: [ ] REGISTRATION [ ] W.W.C. [✓] NONE CLASS I

CODE	INV.#	VIOLATION	COMPLIANCE TIME	DATE COMPLETED
54	10,11,12	materials stored outside without secondary containment	12-14-94	2-3-95

Geoff Dennis
ENVIRONMENTALIST

X Susan McCoy
FACILITY CONTACT PERSON

REINSPECTION DATE _____ INITIALS _____

*COMPLIANCE WITH THE ELKHART COUNTY GROUND WATER PROTECTION ORDINANCE DOES NOT EXEMPT THIS FACILITY FROM ANY OTHER FEDERAL, STATE OR LOCAL LAWS, CODES OR REGULATIONS.

1/92 AVT 4/94 REV/REW ECHD COPY

ELKHART COUNTY
GROUND WATER PROTECTION ORDINANCE
HAZARDOUS/TOXIC SUBSTANCE INVENTORY

COMPANY NAME RE Jackson Date 11-1-94

	SUBSTANCE	LOCATION	AMT	CPCTY	CONTAINER	COMPLY
1.	degreaser	inside - west wall	2	55gal	drum	Y
2.	machine oil	inside - west wall	2	55gal	drum	Y
3.	tapping fluid	" "	1	5gal	other	Y
4.	machine oil	inside - east wall	2	55gal	other	Y
5.	sealant	inside - east wall	6	5gal	other	Y
6.	MEK	fire cabinet - south wall	4	5gal	other	Y
7.	Naptha	" "	1	5gal	other	Y
8.	adhesive	" "	2	5gal	other	Y
9.	"prestex" (flammable)	inside - south wall	1	20gal	other	Y
10.	degreaser	outside - north side	1	55gal	drum	N
11.	MEK	" "	2	5gal	other	N
12.	MEK waste	" "	1	55gal	drum	N
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9-30-93

ELKHART COUNTY
GROUND WATER PROTECTION ORDINANCE
INSPECTION FORM

ID NUMBER 2248 DATE 1-28-93 PAGE 1 OF 2

BUSINESS NAME RE Jackson Co, Inc

ADDRESS 53217 Marina Dr Elkhart, IN ZIP 46514

PHONE NUMBER 264-7557 CONTACT NAME Chris Rizzo

CHECK ALL APPLICABLE:

[✓] SEPTIC [ ] DRYWELL [ ] CITY SEWER [ ] OTHER (2 systms)

[✓] FLOOR DRAINS water test for windows

[✓] STORAGE OF HAZARDOUS OR TOXIC SUBSTANCES (SEE INVENTORY)

[ ] WASTE WATER CHARACTERIZATION PROVIDED / NEXT DUE

EXEMPTIONS: [ ] REGISTRATION [ ] W.W.C. [✓] NONE

CODE	INV.#	VIOLATION	COMPLIANCE TIME/DATE	COMPLETED
43~~82~~	8	storage shed has unsealed floor/foundation	2-28-93	2-26-93
32	—	no wastewater characterization provided *	4-28-93	4-13-93
* (3) VOC analysis required for:				
		(1) septic system #1		
		(2) septic system #2		
		(3) "water test" discharge		

Geoffrey Morrow
ENVIRONMENTALIST

Christopher Rizzo
FACILITY CONTACT PERSON

REINSPECTION DATE _____ INITIALS _____

*COMPLIANCE WITH THE ELKHART COUNTY GROUND WATER PROTECTION ORDINANCE DOES NOT EXEMPT THIS FACILITY FROM ANY OTHER FEDERAL, STATE OR LOCAL LAWS, CODES OR REGULATIONS.

1/92 AVT ECHD COPY

ELKHART COUNTY
GROUND WATER PROTECTION ORDINANCE
HAZARDOUS/TOXIC SUBSTANCE INVENTORY

COMPANY NAME RE Jackson

	SUBSTANCE	LOCATION	AMT	CPCTY	CONTAINER	COMPLY
1.	Tool kk Soluble oil	inside - production area	1	55gal		Y
2.	degreaser (CAS # 68 34920 / 70 354)	inside - production area	2	55gal		Y
3.	(CAS # 20324338 / 64972196)					
4.	Naptha	safety cabinet	1	5gal	steel	Y
5.	MEK	" "	2	5gal	steel	Y
6.	metal sealant	" "	1	5gal	steel	Y
7.	adhesive	" "	1	5gal	steel	Y
8.	wash MEK/Oil	outside - storage shed	1	30gal	steel	N
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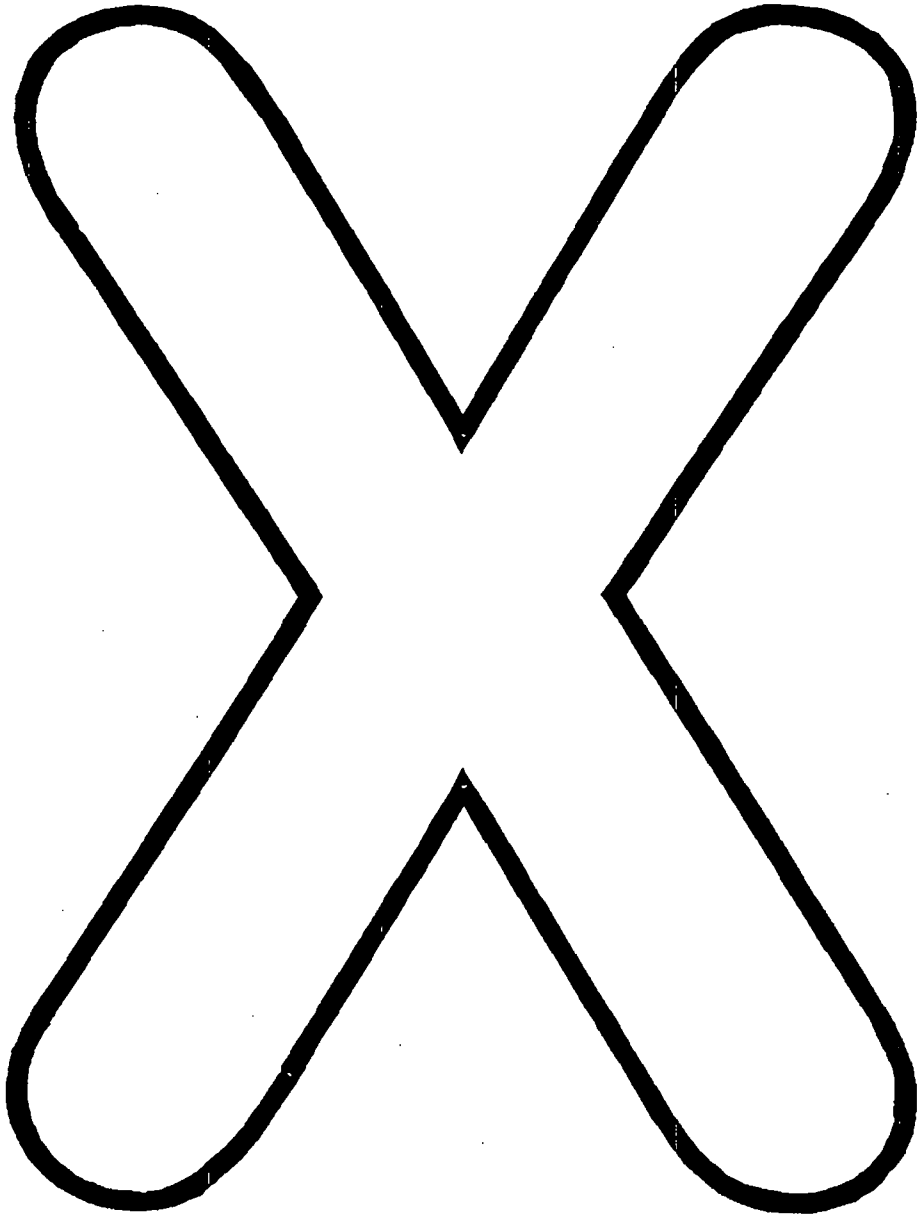

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9-30-93

Safety & Environmental Resources, Inc.
OSHA/EPA Training & Consulting

1122 DIVISION ST.
P.O. BOX 1308
MISHAWAKA, IN 46546-1308
PHONE: (219) 258-0507
(219) 674-0450
FAX: (219) 258-0370

DAN WILSON
PRESIDENT

DAN SCHROEDER
GENERAL MANAGER

SER Oil Services
Waste Oil/Water Processing
Specialty Products

LABORATORY REPORT

CLIENT: R. E. Jackson
ATTN: Ed Smoker
53217 Marina Drive
Elkhart IN 46514-9586

REPORT: A0321-3

PROJECT/SITE: GWPO Wastewater Characterizations

SAMPLES SUBMITTED: Three liquid sample(s) for individual VOC analysis.

COLLECTED: 3-26-93 BY: RF/CR RECEIVED: 3-31-93

REPORT SUMMARY:

Volatile Organic Compounds (VOCs) are analyzed by a Gas Chromatograph (GC) using the EPA approved method 8021.

A purge and trap system is utilized to separate the VOCs from the sample matrix and introduce the VOCs into the GC. VOC detection is accomplished by an Electrolytic Conductivity Detector (ELCD) and a Photoionization Detector (PID). Purging of known standards are interpreted by the ELCD/PID in order to identify the target compounds.

The detection limits of this method is 1.0 parts per billion (ppb).

Detailed results of the analysis are presented on the following page.

If you have any questions or comments concerning this report, please do not hesitate to call us at (219) 258-0507.

APPROVED BY: John Howard DATE: April 6, 1993

ANALYTICAL RESULTS

CLIENT: R.E.Jackson
ANALYSIS DATE: 4/1/93
SAMPLE DESCRIPTION: Septic 1 (East) A0321 #1

Volatile Organic Compound	DL ug/L	Results	Volatile Organic Compound	DL ug/L	Result
Benzene	1	N.D.	2,2-Dichloropropane	1	N.D.
Bromobenzene	1	N.D.	1,1-Dichloropropene	1	N.D.
Bromochloromethane	1	N.D.	cis-1,3-Dichloropropene	1	N.D.
Bromodichloromethane	1	N.D.	trans-1,3-Dichloropropene	1	N.D.
Bromoform	1.6	N.D.	Ethylbenzene	1	N.D.
Bromomethane	1.1	N.D.	Hexachlorobutadiene	1	N.D.
n-Butylbenzene	1	BDL	Isopropylbenzene	1	BDL
sec-Butylbenzene	1	11.1	p-Isopropyltoluene	1	BDL
tert-Butylbenzene	1	N.D.	Methylene Chloride	1	N.D.
Carbon Tetrachloride	1	N.D.	Naphthalene	1	N.D.
Chlorobenzene	1	N.D.	n-Propylbenzene	1	N.D.
Chloroethane	1	N.D.	Styrene	1	N.D.
Chloroform	1	N.D.	1,1,1,2-Tetrachloroethane	1	N.D.
Chloromethane	1	N.D.	1,1,2,2-Tetrachloroethane	1	N.D.
2-Chlorotoluene	1	N.D.	Tetrachloroethene	1	N.D.
4-Chlorotoluene	1	N.D.	Toluene	1	N.D.
Dibromomethane	1	N.D.	1,2,3-Trichlorobenzene	1	N.D.
1,2-Dibromo-3-Chloropropane	3	N.D.	1,2,4-Trichlorobenzene	1	N.D.
1,2-Dibromoethane	1	N.D.	1,1,1-Trichloroethane	1	N.D.
Dibromomethane	2.2	N.D.	1,1,2-Trichloroethane	1	N.D.
1,2-Dichlorobenzene	1	N.D.	Trichloroethene	1	N.D.
1,3-Dichlorobenzene	1	N.D.	Trichlorofluoromethane	1	N.D.
1,4-Dichlorobenzene	1	BDL	1,2,3-Trichloropropane	1	N.D.
Dichlorodifluoromethane	1	N.D.	1,2,4-Trimethylbenzene	1	1.10
1,1-Dichlorethane	1	N.D.	1,3,5-Trimethylbenzene	1	N.D.
1,2-Dichlorethane	1	N.D.	Vinyl Chloride	1	N.D
1,1-Dichloroethene	1	N.D.	m&p-Xylenes	1	BDL
cis-1,2-Dichoroethene	1	N.D.	o- Xylenes	1	N.D.
trans-1,2-Dichloroethene	1	N.D.			
1,2-Dichloropropane	1	N.D.			
1,3-Dichloropropane	1	N.D.			

Comments:

DL - Detection Limit
N.D. - Not Detected
BDL - Below Detection Limits
ug/L - Parts per Billion
* mg/L - Parts per Millon

ANALYTICAL RESULTS

CLIENT: R.E.Jackson
ANALYSIS DATE: 4/1/93
SAMPLE DESCRIPTION: Septic 2 (Northwest) A0322#2

Volatile Organic Compound	DL ug/L	Results	Volatile Organic Compound	DL ug/L	Result
Benzene	1	N.D.	2,2-Dichloropropane	1	N.D.
Bromobenzene	1	N.D.	1,1-Dichloropropene	1	N.D.
Bromochloromethane	1	N.D.	cis-1,3-Dichloropropene	1	N.D.
Bromodichloromethane	1	N.D.	trans-1,3-Dichloropropene	1	N.D.
Bromoform	1.6	N.D.	Ethylbenzene	1	N.D.
Bromomethane	1.1	N.D.	Hexachlorobutadiene	1	N.D.
n-Butylbenzene	1	N.D.	Isopropylbenzene	1	N.D.
sec-Butylbenzene	1	BDL	p-Isopropyltoluene	1	BDL
tert-Butylbenzene	1	N.D.	Methylene Chloride	1	N.D.
Carbon Tetrachloride	1	N.D.	Naphthalene	1	N.D.
Chlorobenzene	1	N.D.	n-Propylbenzene	1	N.D.
Chloroethane	1	N.D.	Styrene	1	N.D.
Chloroform	1	BDL	1,1,1,2-Tetrachloroethane	1	N.D.
Chloromethane	1	N.D.	1,1,2,2-Tetrachloroethane	1	N.D.
2-Chlorotoluene	1	N.D.	Tetrachloroethene	1	N.D.
4-Chlorotoluene	1	N.D.	Toluene	1	2.45
Dibromomethane	1	N.D.	1,2,3-Trichlorobenzene	1	N.D.
1,2-Dibromo-3-Chloropropane	3	N.D.	1,2,4-Trichlorobenzene	1	N.D.
1,2-Dibromoethane	1	N.D.	1,1,1-Trichloroethane	1	N.D.
Dibromomethane	2.2	N.D.	1,1,2-Trichloroethane	1	N.D.
1,2-Dichlorobenzene	1	N.D.	Trichloroethene	1	N.D.
1,3-Dichlorobenzene	1	N.D.	Trichlorofluoromethane	1	N.D.
1,4-Dichlorobenzene	1	BDL	1,2,3-Trichloropropane	1	N.D.
Dichlorodifluoromethane	1	N.D.	1,2,4-Trimethylbenzene	1	N.D.
1,1-Dichlorethane	1	N.D.	1,3,5-Trimethylbenzene	1	N.D.
1,2-Dichlorethane	1	N.D.	Vinyl Chloride	1	N.D
1,1-Dichloroethene	1	N.D.	m&p-Xylenes	1	N.D.
cis-1,2-Dichoroethene	1	N.D.	o- Xylenes	1	N.D.
trans-1,2-Dichloroethene	1	N.D.			
1,2-Dichloropropane	1	N.D.			
1,3-Dichloropropane	1	N.D.			

Comments:

DL - Detection Limit
N.D. - Not Detected
BDL - Below Detection Limits
ug/L - Parts per Billion
* mg/L - Parts per Millon

ANALYTICAL RESULTS

CLIENT: R.E.Jackson
ANALYSIS DATE: 4/1/93 #3
SAMPLE DESCRIPTION: Plant 2 Water Discharge A0323

Volatile Organic Compound	DL ug/L	Results	Volatile Organic Compound	DL ug/L	Result
Benzene	1	N.D.	2,2-Dichloropropane	1	N.D.
Bromobenzene	1	N.D.	1,1-Dichloropropene	1	N.D.
Bromochloromethane	1	N.D.	cis-1,3-Dichloropropene	1	N.D.
Bromodichloromethane	1	N.D.	trans-1,3-Dichloropropene	1	N.D.
Bromoform	1.6	N.D.	Ethylbenzene	1	N.D.
Bromomethane	1.1	N.D.	Hexachlorobutadiene	1	N.D.
n-Butylbenzene	1	2.34	Isopropylbenzene	1	BDL
sec-Butylbenzene	1	5.57	p-Isopropyltoluene	1	BDL
tert-Butylbenzene	1	4.41	Methylene Chloride	1	N.D.
Carbon Tetrachloride	1	N.D.	Naphthalene	1	BDL
Chlorobenzene	1	N.D.	n-Propylbenzene	1	N.D.
Chloroethane	1	N.D.	Styrene	1	N.D.
Chloroform	1	N.D.	1,1,1,2-Tetrachloroethane	1	N.D.
Chloromethane	1	N.D.	1,1,2,2-Tetrachloroethane	1	N.D.
2-Chlorotoluene	1	N.D.	Tetrachloroethene	1	N.D.
4-Chlorotoluene	1	N.D.	Toluene	1	N.D.
Dibromomethane	1	N.D.	1,2,3-Trichlorobenzene	1	N.D.
1,2-Dibromo-3-Chloropropane	3	N.D.	1,2,4-Trichlorobenzene	1	N.D.
1,2-Dibromoethane	1	N.D.	1,1,1-Trichloroethane	1	BDL
Dibromomethane	2.2	N.D.	1,1,2-Trichloroethane	1	N.D.
1,2-Dichlorobenzene	1	N.D.	Trichloroethene	1	N.D.
1,3-Dichlorobenzene	1	N.D.	Trichlorofluoromethane	1	N.D.
1,4-Dichlorobenzene	1	N.D.	1,2,3-Trichloropropane	1	N.D.
Dichlorodifluoromethane	1	5.48	1,2,4-Trimethylbenzene	1	4.65
1,1-Dichlorethane	1	5.65	1,3,5-Trimethylbenzene	1	4.88
1,2-Dichlorethane	1	N.D.	Vinyl Chloride	1	N.D
1,1-Dichloroethene	1	N.D.	m&p-Xylenes	1	2.27
cis-1,2-Dichoroethene	1	N.D.	o- Xylenes	1	N.D.
trans-1,2-Dichloroethene	1	N.D.			
1,2-Dichloropropane	1	N.D.			
1,3-Dichloropropane	1	BDL			

Comments:

DL - Detection Limit
N.D. - Not Detected
BDL - Below Detection Limits
ug/L - Parts per Billion
* mg/L - Parts per Millon

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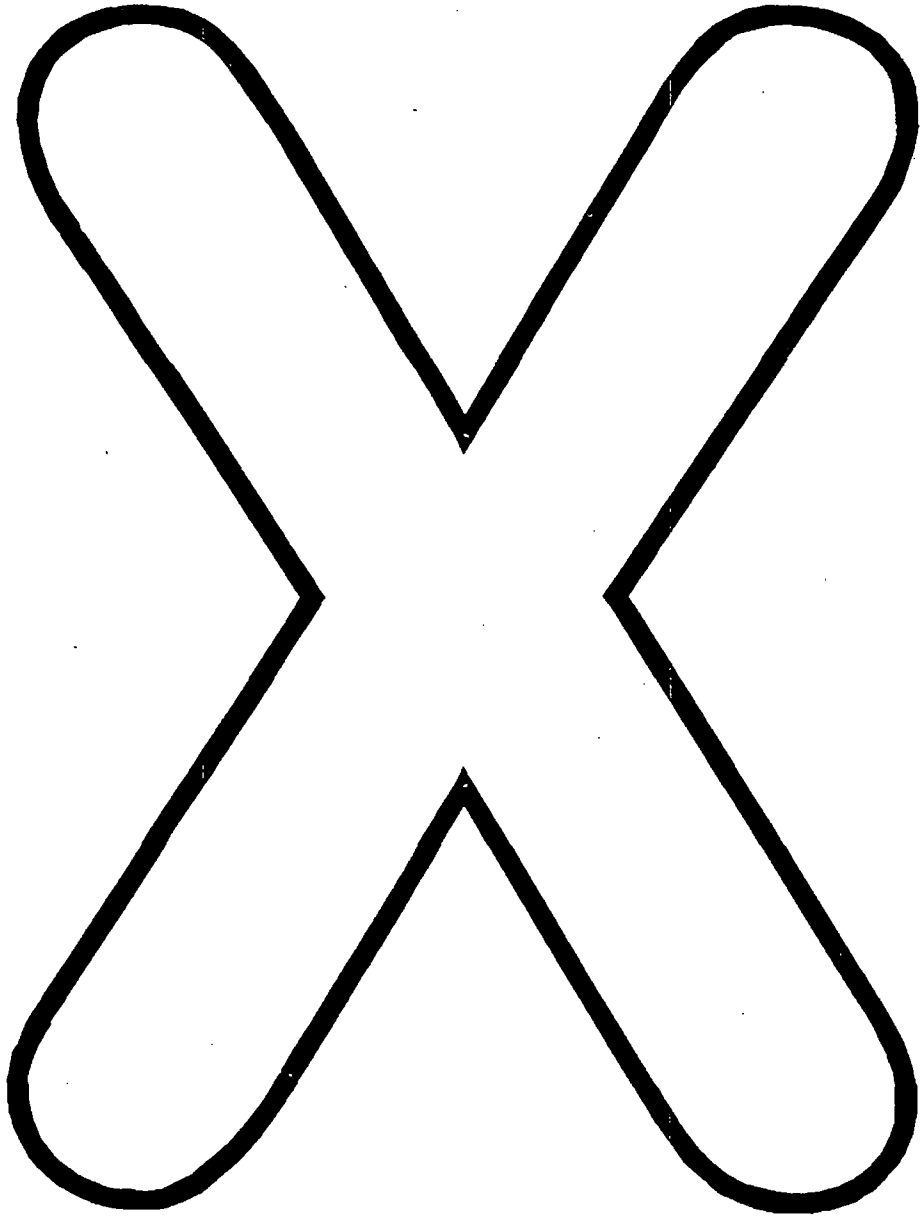

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ECHD
Environmental Health Services Division

Elkhart County Ground Water Protection Ordinance
REGISTRATION FORM

(see back for directions)

SECTION I — GENERAL INFORMATION

A. NAME OF BUSINESS RE Jackson Co, Inc
ADDRESS 53217 Marina Dr
CITY Elkhart, IN ZIP CODE 46514-9586
TOWNSHIP Osolo

B. CONTACT PERSON Chris Rizzo PHONE 264-7557
ALTERNATE PHONE

C. Are you RCRA inspected? YES ___ NO ✓ if YES when was the last inspection ___

D. Has CERCLA (SARA Title III) information been provided to Elkhart County? YES ___ NO ✓

E. OWNER/REPRESENTATIVE'S SIGNATURE [signature] DATE 1-28-93

SECTION II — ON-SITE WASTEWATER DISPOSAL REGISTRATION

	A. Type	B. Purpose	C. Location	D. Estimated Flow
1.	Septic	Sewage	front bldg	88 employees
2.	Septic	Sewage	rear bldg	

SECTION III — STORAGE OF TOXIC OR HAZARDOUS SUBSTANCES

A. Substance	B. Class	C. Maximum Amount	D. Location	E. Type of Container

TO BE RETURNED TO ELKHART COUNTY HEALTH DEPARTMENT

4230 ELKHART ROAD
GOSHEN, IN 46526
PHONE: (219) 875-3391

SECTION I GENERAL INFORMATION

A. Name of facility, address, city, zip code

B. Contact person at facility, phone number, alternate phone number

C. Does your facility fall under the Resource Conservation and Recovery Act, and are you subject to RCRA inspections? When was the last time you were inspected, if you haven't been inspected, indicate that you have not been.

D. Indicate if Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) information has been provided to the County. If it has, only fill in Section I & II.

SECTION II ON-SITE WASTEWATER DISPOSAL REGISTRATION

A. Identify all on-site wastewater disposal systems discharging into the ground. These include such systems as: septic, dry wells, unlined lagoons, oil-water separators or other field absorption systems. Please list each one separately.

B. Identify the purpose of the disposal system such as, sewage, cooling water, etc. Also indicate if any process wastes or chemicals discharge to this system and identify them.

C. Identify the location of each system as closely as possible. Example:
Septic system 50' south of south west corner and 20' west
of south west corner of building 2.
It may help to attach a drawing.

D. Determine the flow rate to each system in gallons per day. Most systems will normally have been determined when they were designed. Refer to the engineering plans possibly in your files. We may be able to help you with this information.

SECTION III STORAGE OF TOXIC OR HAZARDOUS SUBSTANCES

A. Identify each type of hazardous substance as defined in the Elkhart County Ground Water Protection Ordinance (summary attached). These substances include any materials defined in Section 101 (14) of CERCLA, petroleum (including crude oil or any fraction thereof) which is liquid and standard conditions of temperature and pressure (60 fahrenheit and 14.7 pounds per square inch absolute), radioactive and infectious substances as defined by any applicable local, state or federal law or regulation.

B. Classify each substance as:
Ignitable = combustible, flammable or explosive
Corrosive = dissolves material or burns skin
Reactive = unstable, undergoes rapid or violent chemical reaction with water or other material
Toxic = any substance defined in Section 101 (14) of CERCLA

C. Indicate the maximum amount of the substance at any given time.

D. Identify the location (as close as possible) and surface material where the substance is stored. (May use back or provide diagram.)

E. Identify the type of container in which the substance is stored. Example:
Covered 55 gallon metal drum.

ELKHART COUNTY HEALTH DEPARTMENT

Environmental Health Services

4230 Elkhart Road
U.S. 33 & C.R. 26
Goshen, Indiana 46526
(219) 875-3391

Frederick W. Bigler, M.D.
Health Officer

April 19, 1993

Mr. Christopher Rizzo
RE Jackson Company, Inc.
53217 Marina Drive
Elkhart, IN 46514-9586

Dear Mr. Rizzo:

The purpose of this correspondence is to discuss with you a concern of this department regarding a discharge into the septic system on the east side of your facility.

During our initial inspection of January 28, 1993, it was discovered that this septic system was receiving a regular discharge from a degreaser tank located in your facility. Although subsequent testing of this discharge revealed relatively low contaminant levels, under rules adopted by the Indiana State Board of Health (410 IAC 6-10-2 and 6-10-3), it is illegal to dispose of process wastewaters into septic systems.

It is our recommendation that you find an alternate means of disposing or recycling of this wastewater. Your attention to this matter, we feel, will prevent possible groundwater contamination and/or legal liability in the future. Your cooperation in this matter is appreciated.

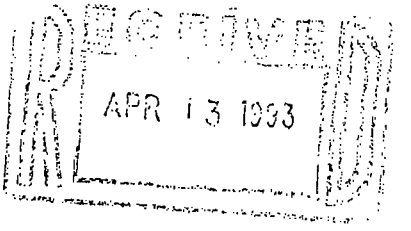
Sincerely,

Geoffrey S. Downie

Geoffrey S. Downie
Environmentalist II

GD/dlc

R.E. JACKSON COMPANY, INC.



April 12, 1993

Mr. Geoffrey S. Downie, Environmentalist II
Elkhart County Health Department
4230 Elkhart Road
Goshen, IN 46526

Dear Mr. Downie:

Enclosed are results from VOC analysis. This analysis was performed to comply with the Ground Water Protection Ordinance inspection done on 1/28/93.

If you require any further information, please advise me.

Sincerely,

Christopher Rizzo
Personnel Director

CRdw

53217 MARINA DRIVE • ELKHART, INDIANA 46514-9586 • 219/264-7557
FAX 219/264-7316

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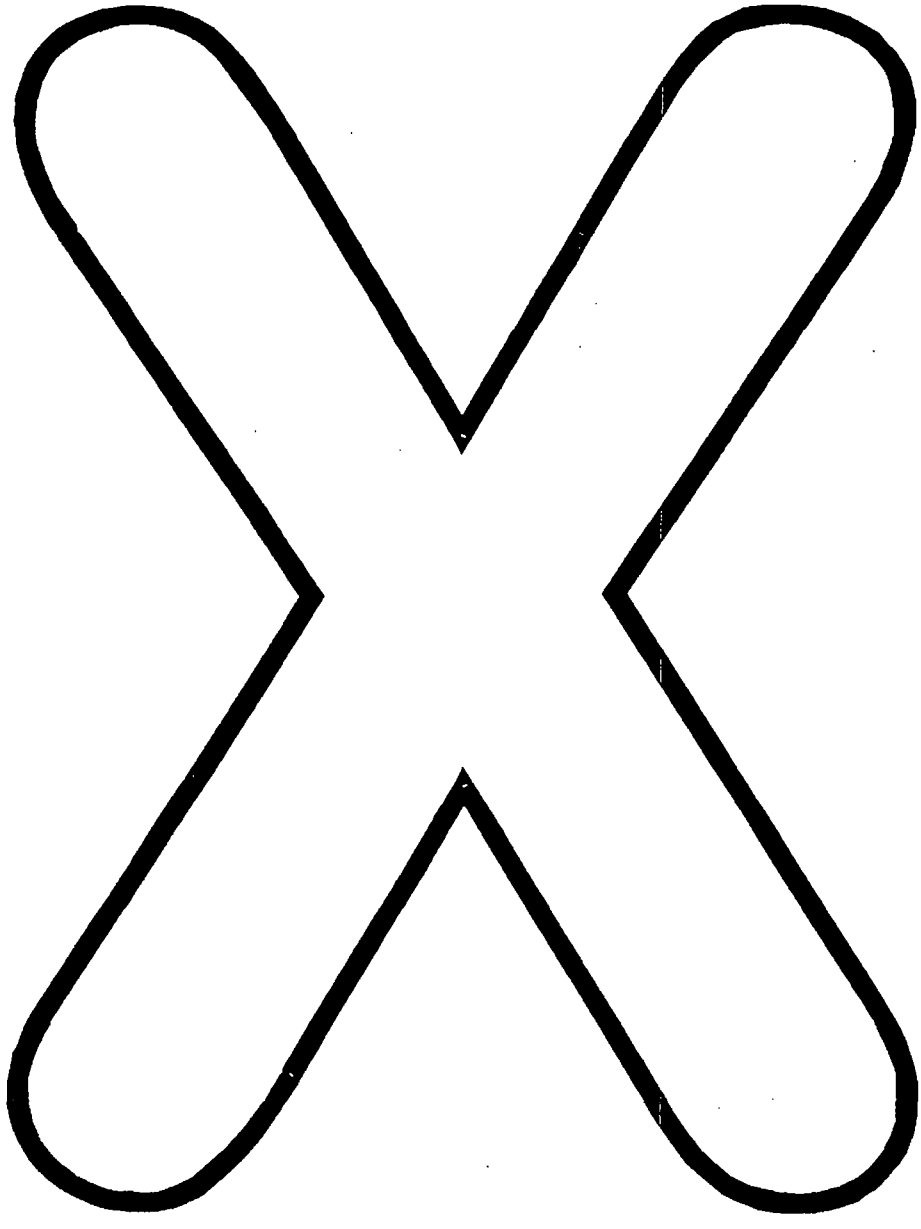

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3-9-95

R.E. JACKSON COMPANY, INC.

March 3, 1995

Mr. Geoffrey S. Downie, REHS
Environmentalist III
Environmental Health Services
Elkhart County Health Department
4230 Elkhart Road
Goshen, IN 46526

Dear Mr. Downie:

Enclosed are the results from the VOC analysis.

If you require any further information, please let us know.

Sincerely,

Susan E. McCoy

Susan E. McCoy
Safety Director

/m

encl.

53217 MARINA DRIVE • ELKHART, INDIANA 46514-9586 • 219/264-7557
FAX 219/264-7316

Safety & Environmental Resources, Inc.
OSHA/EPA Training & Consulting

14009 JEFFERSON BLVD.
P.O. BOX 1308
MISHAWAKA, IN 46546-1308
PHONE: (219) 258-0778
24 HOUR PHONE: (219) 258-0507
FAX: (219) 258-4748

DAN WILSON
PRESIDENT

DAN SCHROEDER
EXECUTIVE VICE PRESIDENT

SER Oil Services
Waste Oil/Water Processing
Specialty Products

TRACE ID: K034-01
REPORT DATE: 02/21/95
ANALYSIS DATE: 02/13/95
ANALYST: gmr

CLIENT ID: R.E. Jackson
SAMPLE DATE: 01/31/95
SAMPLE RECEIVED: 02/07/95
SAMPLE TYPE: Water

SAMPLE ID: Test Chamber A0341
SAMPLER: km

EPA 8260 VOLATILES	RESULTS (ug/L)
Benzene	<1
Bromodichloromethane	<1
Bromoform	<1
Bromomethane	<1
Carbon tetrachloride	<1
Chlorobenzene	<1
Chloroethane	<1
2-Chloroethylvinyl ether	<10
Chloroform	<1
Chloromethane	<1
Dibromochloromethane	<1
1,3-Dichlorobenzene	<1
1,2-Dichlorobenzene	<1
1,4-Dichlorobenzene	20
1,1-Dichloroethane	<1
1,2-Dichloroethane	1.0
1,1-Dichloroethene	<1
trans-1,2-Dichloroethene	<1
1,2-Dichloropropane	<1
cis-1,3-Dichloropropene	<1
trans-1,3-Dichloropropene	<1
Ethyl benzene	<1
Methylene chloride	43
1,1,2,2-Tetrachloroethane	<1
Tetrachloroethene	1.5
Toluene	5.7
1,1,1-Trichloroethane	<1
1,1,2-Trichloroethane	<1
Trichloroethene	<1
Trichlorofluoromethane	<1
Vinyl chloride	<1
Xylenes	<3

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DAN WILSON
PRESIDENT

DAN SCHROEDER
EXECUTIVE VICE PRESIDENT

SER Oil Services
Waste Oil/Water Processing
Specialty Products

TRACE ID: K034-01
REPORT DATE: 02/21/95
ANALYSIS DATE: 02/13/95
ANALYST: gmr

CLIENT ID: R.E. Jackson
SAMPLE DATE: 01/31/95
SAMPLE RECEIVED: 02/07/95
SAMPLE TYPE: Water

SAMPLE ID: Septic Tank #1 A0342
SAMPLER: km

EPA 8260 VOLATILES	RESULTS (ug/L)
Benzene	<1
Bromodichloromethane	<1
Bromoform	<1
Bromomethane	<1
Carbon tetrachloride	<1
Chlorobenzene	<1
Chloroethane	<1
2-Chloroethylvinyl ether	<10
Chloroform	<1
Chloromethane	<1
Dibromochloromethane	<1
1,3-Dichlorobenzene	<1
1,2-Dichlorobenzene	<1
1,4-Dichlorobenzene	110
1,1-Dichloroethane	<1
1,2-Dichloroethane	<1
1,1-Dichloroethene	<1
trans-1,2-Dichloroethene	<1
1,2-Dichloropropane	<1
cis-1,3-Dichloropropene	<1
trans-1,3-Dichloropropene	<1
Ethyl benzene	<1
Methylene chloride	57
1,1,2,2-Tetrachloroethane	<1
Tetrachloroethene	<1
Toluene	24
1,1,1-Trichloroethane	<1
1,1,2-Trichloroethane	<1
Trichloroethene	<1
Trichlorofluoromethane	<1
Vinyl chloride	<1
Xylenes	<3

Safety & Environmental Resources, Inc.

OSHA/EPA Training & Consulting

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DAN WILSON
PRESIDENT

DAN SCHROEDER
EXECUTIVE VICE PRESIDENT

SER Oil Services

Waste Oil/Water Processing
Specialty Products

TRACE ID: K034-01
REPORT DATE: 02/21/95
ANALYSIS DATE: 02/13/95
ANALYST: gmr

CLIENT ID: R.E. Jackson

SAMPLE DATE: 01/31/95
SAMPLE RECEIVED: 02/07/95
SAMPLE TYPE: Water

SAMPLE ID: Septic Tank #2 A0343

SAMPLER: km

EPA 8260 VOLATILES	RESULTS (ug/L)
Benzene	<1
Bromodichloromethane	<1
Bromoform	<1
Bromomethane	<1
Carbon tetrachloride	<1
Chlorobenzene	<1
Chloroethane	<1
2-Chloroethylvinyl ether	<10
Chloroform	<1
Chloromethane	<1
Dibromochloromethane	<1
1,3-Dichlorobenzene	<1
1,2-Dichlorobenzene	<1
1,4-Dichlorobenzene	86
1,1-Dichloroethane	<1
1,2-Dichloroethane	2.4
1,1-Dichloroethene	<1
trans-1,2-Dichloroethene	<1
1,2-Dichloropropane	<1
cis-1,3-Dichloropropene	<1
trans-1,3-Dichloropropene	<1
Ethyl benzene	1.6
Methylene chloride	59
1,1,2,2-Tetrachloroethane	<1
Tetrachloroethene	<1
Toluene	9.2
1,1,1-Trichloroethane	<1
1,1,2-Trichloroethane	<1
Trichloroethene	1.1
Trichlorofluoromethane	<1
Vinyl chloride	<1
Xylenes	16

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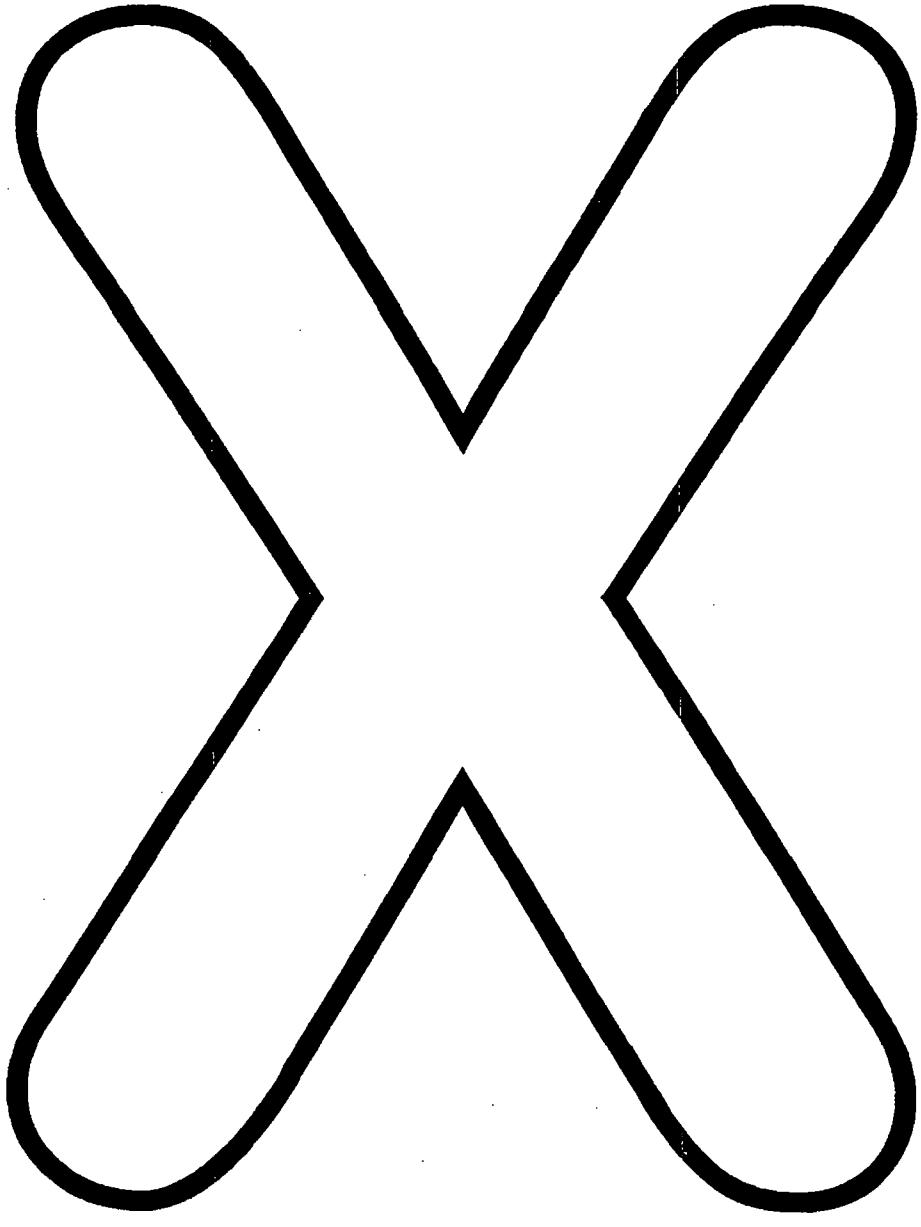

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R. E. Jackson Company, Inc.

53217 MARINA DRIVE
ELKHART, INDIANA 46514-9586
219/264-7557

January 28, 1986

Elkhart County Health Department
315 S. 2nd Street
Elkhart, IN 46516

ATTN: Max Michael

Dear Max:

On January 9, 1986, Norm Gray from the Indiana State Board of Health told me (after reviewing the MSDS on Grimex) that we could dump our degreasing fluid down our septic system. Mr. Gray said to check with city or county officials to see if they had any preconditioning requirements before dumping.

For your review, I have sent a copy of the MSDS on Grimex. Please look at it and give me a call at 264-7557.

Thank you.

Sincerely,

Stephen

Stephen Squibb
Health & Safety Director

SSdw

Elkhart Co Health Dep

STATE OF INDIANA

INDIANAPOLIS

STATE BOARD OF HEALTH

AN EQUAL OPPORTUNITY EMPLOYER

Address Reply to:
Indiana State Board of Health
1330 West Michigan Street
P. O. Box 1964
Indianapolis, IN 46206-1964

March 26, 1986

Mr. Stephen Squibb
Health and Safety Director
R. E. Jackson Company, Inc.
53217 Marina Drive
Elkhart, IN 46514

Dear Mr. Squibb:

Re: Discharge of Degreaser into Septic System

As a result of a conversation between you and a member of my staff on February 25, 1986, concerning the proposed disposal of industrial wastewater containing a heavy duty alkaline cleaner and degreaser (called "Grimex") along with associated contaminants into the plant septic system, staff has decided that this proposal should not be practiced for the following reason(s):

- use of this type of compound may interfere with the settling performance of the solids in the septic tank and the eventual distribution of the wastewater into the tile field regardless of whether or not the industrial discharge is on a continuous or intermittent basis;

- the resultant solids from the septic tank may not be ideally suited for the eventual treatment at the local publicly operated treatment works depending on septage characteristics.

If you have any questions concerning this matter, please contact Mr. Robert Kelsey of my staff at AC 317/633-0838.

Very truly yours,

Larry J. Kane

Larry J. Kane, Chief
Permits Section
Division of Water Pollution Control

RAK/sck
cc: Elkhart County Health Department--Mr. Max Michael ✓

STATE of INDIANA

INDIANAPOLIS

STATE BOARD OF HEALTH

AN EQUAL OPPORTUNITY EMPLOYER

April 24, 1985

Address Reply to:
Indiana State Board of Health
1330 West Michigan Street
P. O. Box 1964
Indianapolis, IN 46206-1964

Eldon Squibb, Health and Safety Manager
R.E. Jackson Company, Inc.
53217 Marina Drive
Elkhart, IN 46514

Dear Mr. Squibb:

This is to affirm our telephone conversation regarding the disposal of used alkaline cleaner-degreaser at your facility. To avoid the possibility of groundwater pollution, our policy is that no industrial process wastes or wastewaters may be disposed of in a septic system or similar ground absorption, sanitary waste treatment system.

It is recommended that any wastewater generated by parts cleaning in your operation be collected and disposed of at an appropriate wastewater treatment facility. You may wish to enlist the assistance of a licensed liquid industrial waste hauler to accomplish this.

The wastewater should probably be analyzed for hazardous waste characteristics, particularly corrosivity ($2 > pH > 12$) before a disposal method is secured.

If you have further questions, contact me at 317/633-0840. Your concern in this matter has been proper.

Very truly yours,

Martin Risch

Martin Risch
Groundwater Section
Division of Water Pollution Control

MRisch/lfv
cc: Mr. George Halloran
Inspection Section
Mr. Rick Brown
Elkhart County Health Department

Mnx

PHONE CONVERSATION RECORD

Conversation with:
Name Joe Stallsmith
Company ISBH - WPCO
Address
Phone 317-633-0795

Date 2, 3, 86
Time 4 AM (PM)

☐ Originator Placed Call
☐ Originator Received Call

Subject RE Jackson Discharge

Notes:
Stallsmith Notified
+ Copies Sent
+ Joe to cc Letter between ISBH & RE Jackson
To mention our Dept to RE Jackson — that we had notified ISBH

X File
/ /
Follow-Up By:
Copy/Route To:

Follow-Up-Action: Contact RE Jacks
Don't Tell them Stallsmith
2-4-86 new contact

Originator's Initials

11

Speed Letter®

To Joe Stallsmith
ISBH - WPCD

From Max D. Michael
Groundwater Protection Program Coordinator
Elkhart County Health Dept

Subject R. E. Jackson Company

No 9 & 10 FOLD

MESSAGE

Enclosed please find a letter and accompanying Material Safety Data Sheet from Stephen Squibb. It was our understanding at ECHD that such inquiries were to be directed to either yourself or Larry Kane — Is Worm Gray now included? Please keep me informed of any developments concerning R E Jackson Thank you

Date Feb 4 1986 Signed Max D. Michael

REPLY

No. 9 FOLD

No. 10 FOLD

Date Signed 10

SENDER—DETACH AND RETAIN YELLOW COPY. SEND WHITE AND PINK COPIES WITH CARBON INTACT.

ELKHART COUNTY
COMPLAINT FORM

Date: 8/15/84 Department: HEALTH Taken By: R.T. BROWN

Location: N.S.E.W. side/cor. of MARINA & COOPER mi./ft. N.S.E.W. side/cor. of _____

Address: 53217 MARINA DR. Twp: _____ Zone: _____

Complaint: FLOOR DRAIN IN NEW BUILDING WITH PIPE TO NEW SEPTIC TANK — SUSPECT POSSIBLE PROCESS D/C — OTHER BUILDING ATTACHED & 1,1,1 - TRICHLOROETHANE (OBSERVED DRUM) USED - WHICH WAS DENIED BY TERRY K. SHELLY, V.P. OPERATIONS — ALSO OBSERVED COMPRESSORS LEAKING OIL ON FLOOR.

Property Owner: R.E. JACKSON CO., INC. Telephone Number: 264-7857

Address: 53217 MARINA DR.

Referral - Department: _____ Date: _____

Conditions Found: SHELLY CLAIMED DRAIN WAS USED TO WASH WINDOWS & CHECK FOR LEAKS — SEPTIC SYSTEM WAS GIVEN OK PER T.R.W. FOR COVER-UP.

Action: NEED TO INCLUDE IN SURVEY

Reinvestigation: _____ Closed: _____

By: _____ Return Call Requested: Yes _____ No _____

Reported By: ECHD PERSONNEL

Address: _____

Telephone Number: _____

(11-22-81)

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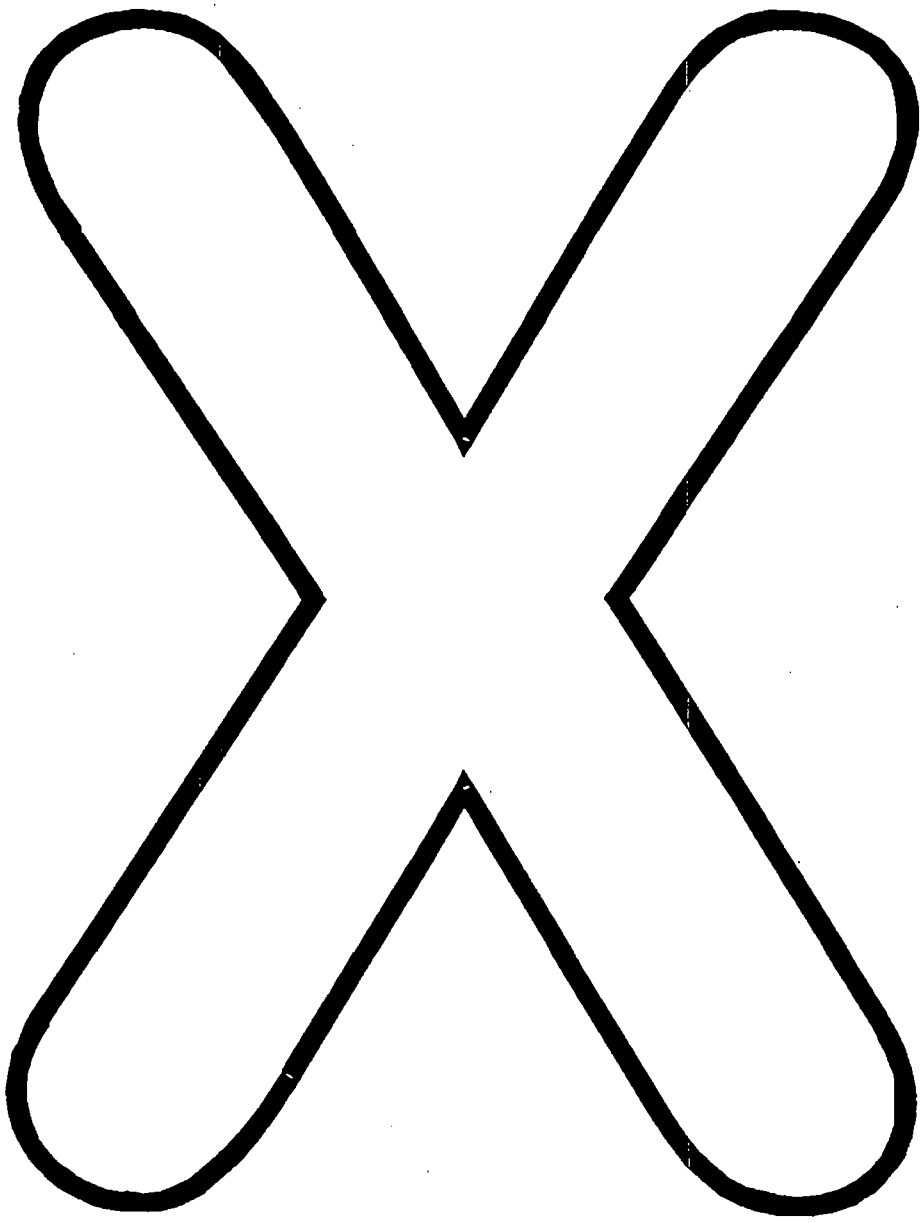

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NATIONAL LABORATORIES
Lehn & Fink Industrial Products Division of Sterling Drug Inc.
Montvale, New Jersey 07645

EMERGENCY PHONE – 24 HOURS
(201) 573-5700

CONFIDENTIAL MATERIAL DATA SHEET

Date of Issue November 1, 1981

PRODUCT # GRIMEX

I. IDENTIFICATION

1. Trade Name: GRIMEX® Heavy-Duty Alkaline Cleaner & Degreaser
2. Generic Description: Heavy Duty Alkaline Cleaner
3. *Intended Use*: Heavy Duty Cleaner-Degreaser for Heavily Soiled Environmental Surfaces

II. APPARENT HAZARDS

(See Safety and Health Information – Sections V, VI and VII)

1. Skin Irritation	[2] Irritant
2. Eye Irritation	[3] Moderately irritating
3. Oral Toxicity	[1] Non-Toxic
4. Dermal Toxicity	[1] Non-Toxic
5. Inhalation Toxicity	[1] Non-Toxic

*See section "Guidelines and Definitions"

6. Is product a known strong skin sensitizer? ☐ Yes ☒ No

III. PRODUCT COMPOSITION: Does this product contain materials in the following categories? If yes, name each material and whether a major or minor portion is present (minor ingredients–less than 10% of total composition).

1. Metals or metal compounds (Including lead, mercury, arsenic, silver, beryllium, cadium, chromium, manganese, nickel, aluminum, lithium). ☐ Yes ☒ No

2. Inorganic compounds (Including acids, alkalis, silica or silicates, cyanides, halogenated compounds, phosphates, sulfates, or asbestos) ☒ Yes ☐ No

   Phosphates - Minor

   Potassium Hydroxide - Minor

Refile:
RE Jackson
Company, Inc

3. Aliphatic carbon compounds (Including carbon tetrachloride, other halogenated hydrocarbons, formaldehyde, methyl alcohol, acrolein, peroxides, glycols, carbon disulfide, aldehydes, esters or ketones). ☐ Yes ☒ No

cc: Blair
D.L.

4. Volatile aromatic carbon compounds, aromatic nitro or amino compounds. ☐ Yes ☒ No

5. Other materials of importance ☐ Yes ☒ No

IV. REACTIVITY DATA

1. Is material: Liquid ☒ Solid ☐ Gas ☐ Paste ☐ Powder ☐ Aerosol ☐

2. Is material flammable? ☐ Yes ☒ No

3. Flash point and method used Tag Closed Cup

>200° F

4. Is material explosive? ☐ Yes ☒ No

5. Are volatile ingredients given off at room temperature? ☐ Yes ☒ No

6. Are volatile ingredients given off when heated during normal use? ☒ Yes ☐ No

Glycol ether

7. Is material known to react violently with other materials? If yes, explain. ☐ Yes ☒ No

V. HANDLING, STORAGE, TRANSPORTATION, AND DISPOSAL REQUIREMENTS

DANGER: Keep out of reach of children. Causes eye irritation. Harmful if swallowed. Contains alkaline materials. Avoid contact with eyes. Wear plastic or rubber gloves and protective goggles. For industrial and institutional use only.

ST AID PROCEDURES

In case of eye contact, flush with plenty of water for 15 minutes. Call a physician. If swallowed, do not induce vomiting. Call a physician immediately. Administer large quantities of milk or egg whites beaten in water.

VII. SPECIAL PROTECTION INFORMATION

1. Ventilation

Not Applicable

2. Respiratory Protection

Not Applicable

3. Other Protective Measures

Wear plastic or rubber gloves and protective goggles when handling.

VIII LABELING

Where applicable, this product is labeled and packaged in accordance with the regulations of the following agencies.

- ☒ Department of Transportation, under the Federal Hazardous Materials Transportation Act.
- ☐ Environmental Protection Agency under the Federal Insecticide, Fungicide and Rodenticide Act.
- ☒ Consumer Products Safety Commission under the Federal Hazardous Substances Act.

The information herein is given in good faith but no warranty, express or implied, is made.

P.C. Flamm

SKIN IRRITATION: Ratings corresponding to the following definitions are derived from data obtai from the test methods as described in the 16 CFR 1500.41 and categories of toxicity as described in 16 CFR 1500.3.

1. Practically Non-Irritating: The undiluted product may cause mild or slight inflammation (edema and erythema skin reaction values of 0 or 1) of intact and abraded skin of rabbits following immediate, prolonged, or repeated contact during the study period. Primary Irritation Index of 0-1.9.
2. Irritant: The undiluted product causes inflammation (edema and erythema skin reaction values of primarily 1 and/or 2) of intact or abraded skin of rabbits following immediate, prolonged or repeated contact during the study period. Primary Irritation Index of 2-4.
3. Primary Skin Irritant: The undiluted product causes moderate to severe inflammation (edema and erythema skin reaction values of primarily 3 and/or 4) upon immediate, prolonged or repeated contact with the intact or abraded skin of rabbits. Primary Irritation Index of 5 or more.
4. Corrosive: The undiluted product causes visible destruction or irreversible alterations of the tissue structure at the site of contact on intact or abraded skin of rabbits following immediate prolonged or repeated contact.

EYE IRRITATION: Ratings corresponding to the following definitions are derived from data obtained from test methods described in the 16 CFR 1500.42 and according to the Draize Scale for scoring ocular lesions obtained from "Appraisals of the Safety of Chemicals in Food, Drugs, and Cosmetics," pp. 49-51, 1959.

1. Slightly Irritating: The undiluted product, when instilled into the eyes of rabbits, produces no noticeable irritation, or slight conjunctival irritation. (Average Draize score range 0.00-15.0).
2. Mildly Irritating: The undiluted product, when instilled into the eyes of rabbits, produces mild to moderate conjunctival irritation, mild corneal involvement with or without mild iritis. (Average Draize score range 15.1-1-25.0).
3. Moderately Irritating: The undiluted product, when instilled into the eyes of rabbits, produces moderate corneal involvement with or without severe iritis. (Average Draize score range 25.1-50.0).
4. Strongly Irritating: The undiluted product, when instilled into the eyes of rabbits, produces severe corneal involvement with or without severe iritis. (Average Draize score range 50.1-110.0).

ORAL TOXICITY: Ratings corresponding to the following definitions are derived from data obtained from the test methods as described in the 16 CFR 1500.40 and categories of toxicity as described in 16 CFR 1500.3.

1. Non-Toxic: The probable lethal dose of undiluted product to 50% of the test animals determined from ingestion studies (LD_{50}) is greater than 5 grams per kilogram of body weight.
2. Toxic: The probable lethal dose of undiluted product to 50% of the test animals determined from ingestion studies (LD_{50}) is greater than 50 milligrams and less than or equal to 5 grams per kilogram of body weight.
3. Highly Toxic: The probable lethal dose of undiluted product to 50% of the test animals determined from ingestion studies (LD_{50}) is less than or equal to 50 milligrams per kilogram of body weight.

DERMAL TOXICITY: Ratings corresponding to the following definition are derived from data obtained from the test methods as described in 16 CFR 1500.40 and categories of toxicity as described in 16 CFR 1500.3.

1. Non-Toxic: The probable lethal dose of undiluted product to 50% of the test animals determined from dermal toxicity studies (LD_{50}) is greater than 2 grams per kilogram of body weight.
2. Toxic: The probable lethal dose of undiluted product to 50% of the test animals determined from dermal toxicity studies (LD_{50}) is greater than the 200 milligrams and less than or equal to 2 grams per kilogram of body weight.
3. Highly Toxic: The probable lethal dose of undiluted product to 50% of the test animals determined from dermal toxicity studies (LD_{50}) is less than or equal to 200 milligrams per kilogram of body weight.

INHALATION TOXICITY: Ratings corresponding to the following definitions are derived from the categories of toxicity described in 16 CFR 1500.3.

1. Non-Toxic: The probable lethal concentration of the undiluted product to 50% of the test animals (LC_{50}) is greater than 200 milligrams per liter by volume when inhaled continuously for one hour or less.
2. Toxic: The probable lethal concentration of the undiluted product to 50% of the test animals (LC_{50}) is greater than 2 milligrams and less than or equal to 200 milligrams per liter by volume when inhaled continuously for one hour or less.
3. Highly Toxic: The probable lethal concentration of the undiluted product to 50% of the test animals (LC_{50}) is less than or equal to [illegible] grams per liter by volume when inhaled continuously for one hour

4

GRIMEX – HEAVY DUTY ALKALINE CLEANER

PRODUCT DATA

CHARACTERISTIC	TEST METHOD	PHYSICAL PROPERTY/ TEST RESULT
Appearance		Liquid
Color		Light Straw
Odor		Mild
Viscosity @ 77°F, cps	Brookfield, spindle #1 @60 rpm LVF	5 cps
Specific Gravity @ 77°F		1.131
Weight/Gallon @ 77°F		9.43
Solubility, Hard or Soft Water		Complete
pH, Concentrate	ASTM E-70	12.9
pH, 1:10	ASTM E-70	11.8
Rinsing Properties 1:5	ASTM D-1281	Excellent
Abrasives		None
Detergency		Excellent
Deleterious Effect on Flooring Asphalt Vinyl Vinyl Asbestos	Federal Specification PD-220	Not Recommended On Resilient Floors
Foaming		Low
Phosphates, % as P	Calculated	1.09
Biodegradability (surfactants)		Yes
USDA Category		A1
Flash Point	ASTM D-56 (TCC)	> 200°F
Fire Point	ASTM D-92 (TOC)	> 200°F
Flammability		Non-Flammable
Storage		No Special Requirements

e.c. Claire

U.S. DEPARTMENT OF LABOR
Occupational Safety and Health Administration

Form Approved
OMB No. 44-R1387

MATERIAL SAFETY DATA SHEET

Required under USDL Safety and Health Regulations for Ship Repairing, Shipbuilding, and Shipbreaking (29 CFR 1915, 1916, 1917)

SECTION I

MANUFACTURER'S NAME	EMERGENCY TELEPHONE NO.
NATIONAL LABORATORIES	201-391-8500
ADDRESS (Number, Street, City, State, and ZIP Code) 225 SUMMIT AVE., MONTVALE, N.J. 07645	
CHEMICAL NAME AND SYNONYMS Heavy Duty Alkaline Cleaner & Degreaser	TRADE NAME AND SYNONYMS GRIMEX
CHEMICAL FAMILY	FORMULA

SECTION II - HAZARDOUS INGREDIENTS

PAINTS, PRESERVATIVES, & SOLVENTS	%	TLV (Units)	ALLOYS AND METALLIC COATINGS	%	TLV (Units)
PIGMENTS NOT APPLICABLE			BASE METAL NOT APPLICABLE		
CATALYST NOT APPLICABLE			ALLOYS NOT APPLICABLE		
VEHICLE NOT APPLICABLE			METALLIC COATINGS NOT APPLICABLE		
SOLVENTS NOT APPLICABLE			FILLER METAL PLUS COATING OR CORE FLUX NOT APPLICABLE		
ADDITIVES NOT APPLICABLE			OTHERS		
OTHERS					

HAZARDOUS MIXTURES OF OTHER LIQUIDS, SOLIDS, OR GASES	%	TLV (Units)
Phosphates	<10	
Potassium Hydroxide	<10	

SECTION III - PHYSICAL DATA

BOILING POINT (°F.) NOT AVAILABLE		SPECIFIC GRAVITY (H_2O=1)	1.131
VAPOR PRESSURE (mm Hg.) NOT AVAILABLE		PERCENT, VOLATILE BY VOLUME (%) NOT AVAILABLE	
VAPOR DENSITY (AIR=1) NOT AVAILABLE		EVAPORATION RATE (_____ =1) NOT AVAILABLE	
SOLUBILITY IN WATER	Complete		
APPEARANCE AND ODOR Clear Liquid with mild odor.			

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (Method used) >200°F Tag Closed Cup	FLAMMABLE LIMITS	Lel	Uel
EXTINGUISHING MEDIA None required – non-flammable			
SPECIAL FIRE FIGHTING PROCEDURES			
UNUSUAL FIRE AND EXPLOSION HAZARDS			

(Continued on reverse side)

SECTION V - HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE: NOT APPLICABLE

EFFECTS OF OVEREXPOSURE

EMERGENCY AND FIRST AID PROCEDURES WARNING: Causes eye irritation. Harmful if swallowed. Contains alkaline materials. Avoid contact with eyes. In case of eye contact, flush with plenty of water for 15 minutes. Call a physician. If swallowed, do not induce vomiting. Call a physician immediately. Administer large quantities of milk or egg whites beaten in water.

SECTION VI - REACTIVITY DATA

STABILITY	UNSTABLE		CONDITIONS TO AVOID
	STABLE	X	

INCOMPATABILITY *(Materials to avoid)*: Avoid Acid Materials

HAZARDOUS DECOMPOSITION PRODUCTS

HAZARDOUS POLYMERIZATION	MAY OCCUR		CONDITIONS TO AVOID
	WILL NOT OCCUR	X	

SECTION VII - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

Wear rubber or plastic gloves and goggles and absorb with rags or saw dust.

WASTE DISPOSAL METHOD

Dispose in trash collection.

SECTION VIII - SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION *(Specify type)*: NOT APPLICABLE

VENTILATION	LOCAL EXHAUST: NOT APPLICABLE	SPECIAL
	MECHANICAL *(General)*: NOT APPLICABLE	OTHER

PROTECTIVE GLOVES: Wear rubber or plastic gloves.	EYE PROTECTION: Wear goggles when handling.

OTHER PROTECTIVE EQUIPMENT

SECTION IX - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING: Keep out of reach of children.

OTHER PRECAUTIONS

Multi-Page Separator Sheet

NOTE: This separator page has been inserted to designate the beginning of a group of pages originally attached or grouped by staple, paper clip, folder, etc. This page is not part of the original document.

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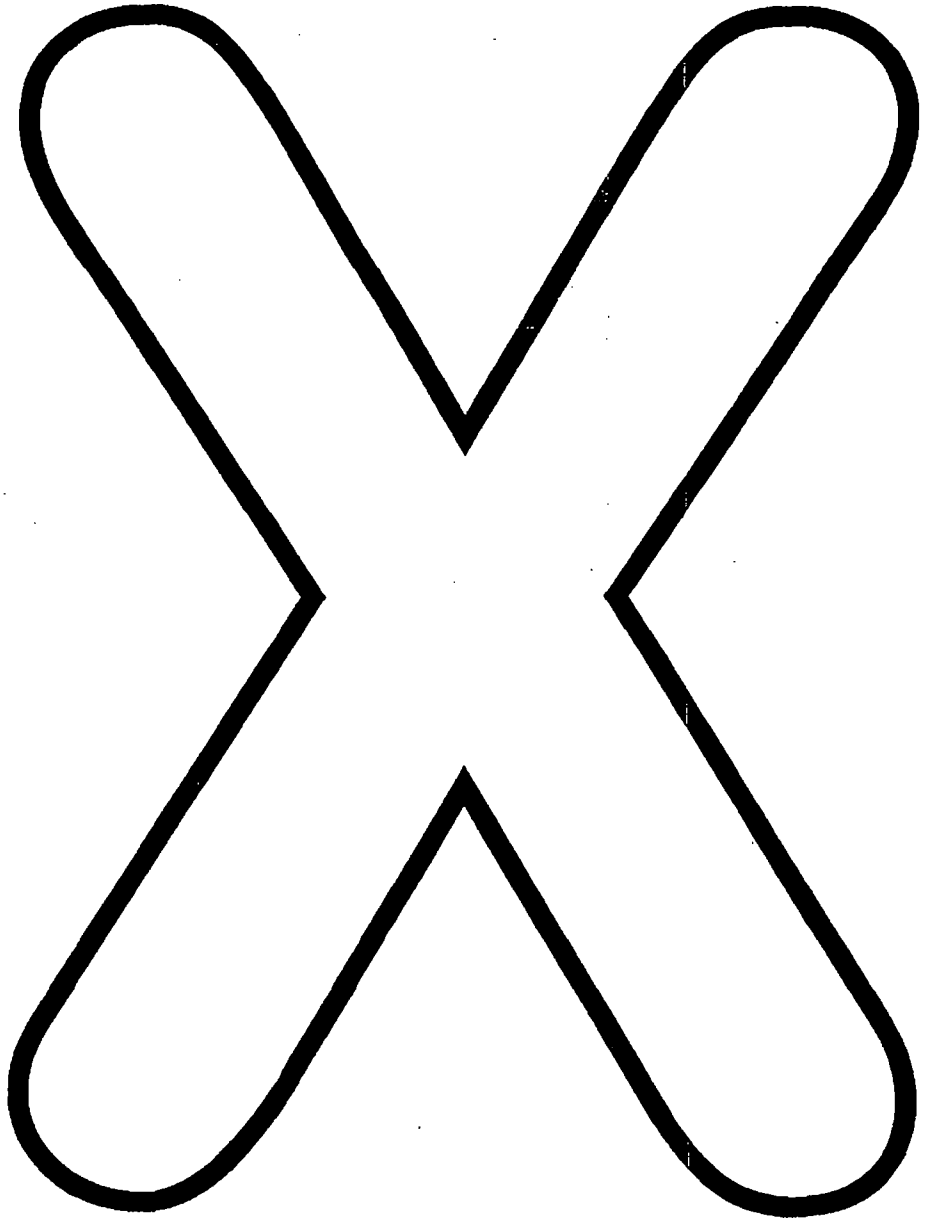

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R.E. JACKSON COMPANY, INC.

March 22,1991

Facility Identification:

R. E. Jackson Company, Inc.
53217 Marina Drive
Elkhart, IN 46514

S.I.C. Code 3429
Dun & Bradstreet Number: 06-585-4887

Emergency Contact: Robert (Bob) Fritz
Health & Safety Director
Phone: 219/264-7557

Report Period:

January 1 to December 31, 1990

R. E. Jackson Company, Inc. is a Small Quantity Generator. We have no E.H.S. at all, and any other substances we have do not meet or exceed the Threshold Planning Qualifications.

I spoke with Dave Daugherty of Indiana E.P.A. and he felt this letter to you was all that was required to comply with SARA Title III.

If any further information is needed, please contact me. I will be happy to submit any forms required.

Sincerely,

Robert Fritz
Health & Safety Director

RFdw

RECEIVED MAR 2 6 1991

53217 MARINA DRIVE • ELKHART, INDIANA 46514-9586 • 219/264-7557
FAX 219/264-7316

Multi-Page Separator Sheet

NOTE:Thisseparatorpagehasbeeninsertedtodesignatethebeginning ofagroupofpagesoriginallyattachedorgroupedbystaple,paperclip, folder,etc.Thispageisnotpartoftheoriginaldocument.

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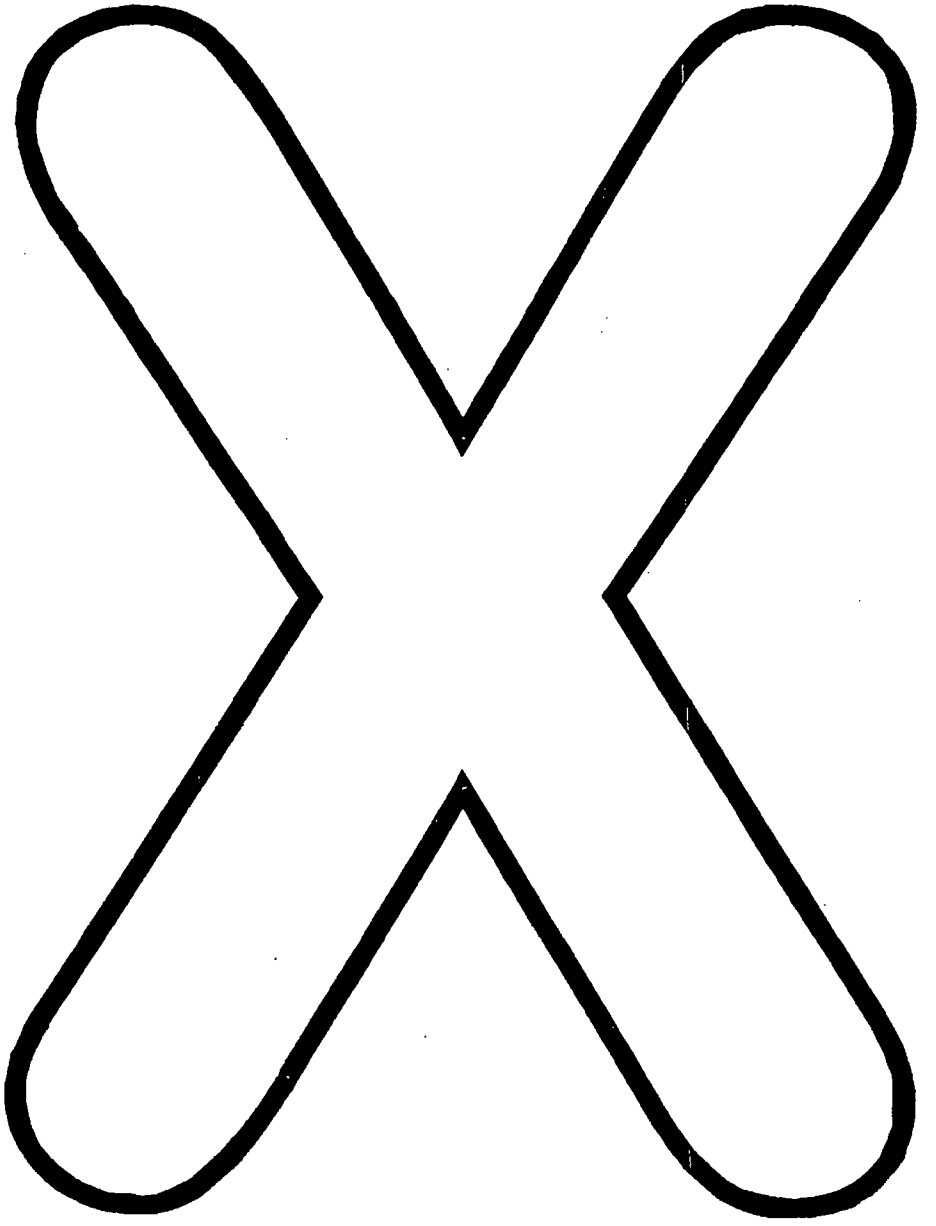

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R.E. JACKSON COMPANY, INC.

February 26, 1988

Elkhart County Commissioners Office
Administration Office Building
117 North Second Street
Goshen, IN 46526

Gentlemen:

After having reviewed the required forms, I find that neither Tier One nor Tier Two are applicable to R. E. Jackson Company, Inc.

Your cooperation in keeping us informed of all pertinent forms to file and regulations to cover is greatly appreciated.

Sincerely,

Robert D. Fritz

Robert D. Fritz
Health & Safety Director

encl.

RDF/sm

53217 MARINA DRIVE · ELKHART, INDIANA 46514-9586 · 219/264-7557

Form Approved OMB No. 2050-0072

Tier One

EMERGENCY AND HAZARDOUS CHEMICAL INVENTORY

Aggregate Information by Hazard Type

FOR OFFICIAL USE ONLY

ID #

Date Received

Important: Read instructions before completing form

Reporting Period From January 1 to December 31, 19____

Facility Identification

Name _____

Street Address _____

City _____ State _____ Zip _____

SIC Code ☐☐☐☐ Dun & Brad Number ☐☐-☐☐☐-☐☐☐☐

Owner/Operator

Name _____

Mail Address _____

Phone ( ) _____

Emergency Contacts

Name _____

Title _____

Phone ( ) _____

24 Hour Phone ( ) _____

Name _____

Title _____

Phone ( ) _____

24 Hour Phone ( ) _____

Physical Hazards

☐ Check if site plan is attached

Hazard Type	*Max Amount**	*Average Daily Amount**	*Number of Days On-Site*	*General Location*
Fire	☐☐	☐☐	☐☐☐	
Sudden Release of Pressure	☐☐	☐☐	☐☐☐	
Reactivity	☐☐	☐☐	☐☐☐	

Health Hazards

Immediate (acute)	☐☐	☐☐	☐☐☐	
Delayed (Chronic)	☐☐	☐☐	☐☐☐	

Certification *(Read and sign after completing all sections)*

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals responsible for obtaining the information, I believe that the submitted information is true, accurate and complete.

Name and official title of owner/operator OR owner/operator's authorized representative

Signature _____ Date signed _____

* Reporting Ranges

Range Value	Weight Range In Pounds From...	To...
00	0	99
01	100	999
02	1000	9,999
03	10,000	99,999
04	100,000	999,999
05	1,000,000	9,999,999
06	10,000,000	49,999,999
07	50,000,000	99,999,999
08	100,000,000	499,999,999
09	500,000,000	999,999,999
10	1 billion	higher than 1 billion

Tier Two EMERGENCY AND HAZARDOUS CHEMICAL INVENTORY *Specific Information by Chemical*	**Facility Identification**	**Owner/Operator Name**
	Name ____	Name ____
	Street Address ____	Mail Address ____
	City ____ State ____ Zip ____	**Emergency Contact**
	SIC Code [ ] [ ] [ ] [ ]	Name ____
	Dun & Brad Number [ ] [ ] - [ ] [ ] [ ] - [ ] [ ] [ ] [ ]	Phone ( ) ____ 24 h
	FOR OFFICIAL USE ONLY: ID # ____	Name ____
	Date Received ____	Phone ( ) ____ 24 h

Important: Read all instructions before completing form

Reporting Period From January 1 to December 31,

Chemical Description	Physical and Health Hazards (check all that apply)	Inventory: Max. Daily Amount (code)	Avg. Daily Amount (code)	No. of Days On-site (days)	Storage Co (Nor — *Storage Code*	*Stora*
CAS [ ] Trade Secret [ ] Chem. Name ____ Check all that apply: Pure Mix Solid Liquid Gas	Fire Sudden Release of Pressure Reactivity Immediate (acute) Delayed (chronic)					
CAS [ ] Trade Secret [ ] Chem. Name ____ Check all that apply: Pure Mix Solid Liquid Gas	Fire Sudden Release of Pressure Reactivity Immediate (acute) Delayed (chronic)					
CAS [ ] Trade Secret [ ] Chem. Name ____ Check all that apply: Pure Mix Solid Liquid Gas	Fire Sudden Release of Pressure Reactivity Immediate (acute) Delayed (chronic)					

Certification *(Read and sign after completing all sections)*

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete.

Name and official title of owner/operator OR owner/operator's authorized representative ____ Signature ____ Date signed ____

Tier Two
EMERGENCY AND HAZARDOUS CHEMICAL INVENTORY

Specific Information by Chemical

Facility Identification

Name _____

Street Address _____

City _____ State _____ Zip _____

SIC Code ☐☐☐☐ Dun & Brad Number ☐☐-☐☐☐-☐☐☐☐

FOR OFFICIAL USE ONLY
ID # _____
Date Received _____

Owner/Operator Name

Name _____

Mail Address _____

Emergency Contact

Name _____

Phone ( ) _____ 24 Hr.

Name _____

Phone ( ) _____ 24 Hr.

Important: Read all instructions before completing form

Reporting Period From January 1 to December 31, 1

Confidential Location Information Sheet

Storage Coc (Cc

Storage Codes *Storag*

CAS # ☐☐☐☐☐☐ ☐☐ ☐ Chem. Name

CAS # ☐☐☐☐☐☐ ☐☐ ☐ Chem. Name

CAS # ☐☐☐☐☐☐ ☐☐ ☐ Chem. Name

Certification *(Read and sign after completing all sections)*

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete.

Name and official title of owner/operator OR owner/operator's authorized representative

Signature

Date signed

R.E. JACKSON COMPANY, INC.

4

February 26, 1988

Elkhart County Emergency Response Committee
Administrative Office Building
117 North Second Street
Goshen, IN 46526

Subj: Required MSDS Sheets

Gentlemen:

Enclosed are the MSDS sheets for R. E. Jackson Company, Inc., required under the new SARA provision Title III: The Emergency Planning and Community Right-to-Know Act of 1986.

Sincerely,

Robert D. Fritz

Robert D. Fritz
Health & Safety Director

encl.

RDF/sm

53217 MARINA DRIVE · ELKHART, INDIANA 46514-9586 · 219/264-7557

NATIONAL LABORATORIES
Lahn & Fink Industrial Products Division of Sterling Drug Inc.
Montvale, New Jersey 07645

EMERGENCY PHONE – 24 HOURS
(201) 573-5700

CONFIDENTIAL MATERIAL DATA SHEET

Date of Issue November 1, 1981

PRODUCT #1 GRIMEX

I. IDENTIFICATION

1. Trade Name: GRIMEX® Heavy-Duty Alkaline Cleaner & Degreaser
2. Generic Description: Heavy Duty Alkaline Cleaner
3. Intended Use: Heavy Duty Cleaner-Degreaser for Heavily Soiled Environmental Surfaces

II. APPARENT HAZARDS

(See Safety and Health Information – Sections V, VI and VII)

1. Skin Irritation	[2] Irritant
2. Eye Irritation	[3] Moderately irritating
3. Oral Toxicity	[1] Non-Toxic
4. Dermal Toxicity	[1] Non-Toxic
5. Inhalation Toxicity	[1] Non-Toxic

*See section "Guidelines and Definitions"

6. Is product a known strong skin sensitizer? ☐ Yes ☒ No

III. PRODUCT COMPOSITION: Does this product contain materials in the following categories? If yes, name each material and whether a major or minor portion is present (minor ingredients—less than 10% of total composition).

1. Metals or metal compounds (Including lead, mercury, arsenic, silver, beryllium, cadium, chromium, manganese, nickel, aluminum, lithium). ☐ Yes ☒ No

2. Inorganic compounds (including acids, alkalis, silica or silicates, cyanides, halogenated compounds, phosphates, sulfates, or asbestos) ☒ Yes ☐ No

   Phosphates - Minor

   Potassium Hydroxide - Minor

3. Aliphatic carbon compounds (Including carbon tetrachloride, other halogenated hydrocarbons, formaldehyde, methyl alcohol, acrolein, peroxides, glycols, carbon disulfide, aldehydes, esters or ketones). ☐ Yes ☒ No

c.c. Blair
Dil

4. Volatile aromatic carbon compounds, aromatic nitro or amino compounds. ☐ Yes ☒ No

5. Other materials of importance ☐ Yes ☒ No

IV. REACTIVITY DATA

1. Is material: Liquid ☒ Solid ☐ Gas ☐ Paste ☐ Powder ☐ Aerosol ☐

2. Is material flammable? ☐ Yes ☒ No

3. Flash point and method used Tag Closed Cup

>200° F

4. Is material explosive? ☐ Yes ☒ No

5. Are volatile ingredients given off at room temperature? ☐ Yes ☒ No

6. Are volatile ingredients given off when heated during normal use? ☒ Yes ☐ No

Glycol ether

7. Is material known to react violently with other materials? If yes, explain. ☐ Yes ☒ No

V. HANDLING, STORAGE, TRANSPORTATION, AND DISPOSAL REQUIREMENTS

DANGER: Keep out of reach of children. Causes eye irritation. Harmful if swallowed. Contains alkaline materials. Avoid contact with eyes. Wear plastic or rubber gloves and protective goggles. For industrial and institutional use only.

VI. FIRST AID PROCEDURES

In case of eye contact, flush with plenty of water for 15 minutes. Call a physician If swallowed, do not induce vomiting. Call a physician immediately. Administer large quantities of milk or egg whites beaten in water.

VII. SPECIAL PROTECTION INFORMATION

1. Ventilation

Not Applicable

2. Respiratory Protection

Not Applicable

3. Other Protective Measures

Wear plastic or rubber gloves and protective goggles when handling.

VIII LABELING

Where applicable, this product is labeled and packaged in accordance with the regulations of the following agencies.

☒ Department of Transportation, under the Federal Hazardous Materials Transportation Act.

☐ Environmental Protection Agency under the Federal Insecticide, Fungicide and Rodenticide Act.

☒ Consumer Products Safety Commission under the Federal Hazardous Substances Act.

The information herein is given in good faith but no warranty, express or implied, is made.

P.C. Plant
2-81

GUIDELINES and DEFINITIONS

SKIN IRRITATION: Ratings corresponding to the following definitions are derived from data obtained from the test methods as described in the 16 CFR 1500.41 and categories of toxicity as described in 16 CFR 1500.3.

1. Practically Non-Irritating: The undiluted product may cause mild or slight inflammation (edema and erythema skin reaction values of 0 or 1) of intact and abraded skin of rabbits following immediate, prolonged, or repeated contact during the study period. Primary Irritation Index of 0-1.9.
2. Irritant: The undiluted product causes inflammation (edema and erythema skin reaction values of primarily 1 and/or 2) of intact or abraded skin of rabbits following immediate, prolonged or repeated contact during the study period. Primary Irritation Index of 2-4.
3. Primary Skin Irritant: The undiluted product causes moderate to severe inflammation (edema and erythema skin reaction values of primarily 3 and/or 4) upon immediate, prolonged or repeated contact with the intact or abraded skin of rabbits. Primary Irritation Index of 5 or more.
4. Corrosive: The undiluted product causes visible destruction or irreversible alterations of the tissue structure at the site of contact on intact or abraded skin of rabbits following immediate prolonged or repeated contact.

EYE IRRITATION: Ratings corresponding to the following definitions are derived from data obtained from test methods described in the 16 CFR 1500.42 and according to the Draize Scale for scoring ocular lesions obtained from "Appraisals of the Safety of Chemicals in Food, Drugs, and Cosmetics," pp. 49-51, 1959.

1. Slightly Irritating: The undiluted product, when instilled into the eyes of rabbits, produces no noticeable irritation, or slight conjunctival irritation. (Average Draize score range 0.00-15.0).
2. Mildly Irritating: The undiluted product, when instilled into the eyes of rabbits, produces mild to moderate conjunctival irritation, mild corneal involvement with or without mild iritis. (Average Draize score range 15.1-1-25.0).
3. Moderately Irritating: The undiluted product, when instilled into the eyes of rabbits, produces moderate corneal involvement with or without severe iritis. (Average Draize score range 25.1-50.0).
4. Strongly Irritating: The undiluted product, when instilled into the eyes of rabbits, produces severe corneal involvement with or without severe iritis. (Average Draize score range 50.1-110.0).

ORAL TOXICITY: Ratings corresponding to the following definitions are derived from data obtained from the test methods as described in the 16 CFR 1500.40 and categories of toxicity as described in 16 CFR 1500.3.

1. Non-Toxic: The probable lethal dose of undiluted product to 50% of the test animals determined from ingestion studies (LD_{50}) is greater than 5 grams per kilogram of body weight.
2. Toxic: The probable lethal dose of undiluted product to 50% of the test animals determined from ingestion studies (LD_{50}) is greater than 50 milligrams and less than or equal to 5 grams per kilogram of body weight.
3. Highly Toxic: The probable lethal dose of undiluted product to 50% of the test animals determined from ingestion studies (LD_{50}) is less than or equal to 50 milligrams per kilogram of body weight.

DERMAL TOXICITY: Ratings corresponding to the following definition are derived from data obtained from the test methods as described in 16 CFR 1500.40 and categories of toxicity as described in 16 CFR 1500.3.

1. Non-Toxic: The probable lethal dose of undiluted product to 50% of the test animals determined from dermal toxicity studies (LD_{50}) is greater than 2 grams per kilogram of body weight.
2. Toxic: The probable lethal dose of undiluted product to 50% of the test animals determined from dermal toxicity studies (LD_{50}) is greater than the 200 milligrams and less than or equal to 2 grams per kilogram of body weight.
3. Highly Toxic: The probable lethal dose of undiluted product to 50% of the test animals determined from dermal toxicity studies (LD_{50}) is less than or equal to 200 milligrams per kilogram of body weight.

INHALATION TOXICITY: Ratings corresponding to the following definitions are derived from the categories of toxicity described in 16 CFR 1500.3.

1. Non-Toxic: The probable lethal concentration of the undiluted product to 50% of the test animals (LC_{50} is greater than 200 milligrams per liter by volume when inhaled continuously for one hour or less.
2. Toxic: The probable lethal concentration of the undiluted product to 50% of the test animals (LC_{50}) is greater than 2 milligrams and less than or equal to 200 milligrams per liter by volume when inhaled continuously for one hour or less.
3. Highly Toxic: The probable lethal concentration of the undiluted product to 50% of the test animals (LC_{50}) is less than or equal to 2 milligrams per liter by volume when inhaled continuously for one hour

GRIMEX – HEAVY DUTY ALKALINE CLEANER

PRODUCT DATA

CHARACTERISTIC	TEST METHOD	PHYSICAL PROPERTY/ TEST RESULT
Appearance		Liquid
Color		Light Straw
Odor		Mild
Viscosity @ 77°F, cps	Brookfield, spindle #1 @60 rpm LVF	5 cps
Specific Gravity @ 77°F		1.131
Weight/Gallon @ 77°F		9.43
Solubility, Hard or Soft Water		Complete
pH, Concentrate	ASTM E-70	12.9
pH, 1:10	ASTM E-70	11.8
Rinsing Properties 1:5	ASTM D-1281	Excellent
Abrasives		None
Detergency		Excellent
Deleterious Effect on Flooring Asphalt Vinyl Vinyl Asbestos	Federal Specification PD-220	Not Recommended On Resilient Floors
Foaming		Low
Phosphates, % as P	Calculated	1.09
Biodegradability (surfactants)		Yes
USDA Category		A1
Flash Point	ASTM D-56 (TCC)	> 200°F
Fire Point	ASTM D-92 (TOC)	> 200°F
Flammability		Non-Flammable
Storage		No Special Requirements

c.c. Claire
Lili

U.S. DEPARTMENT OF LABOR
Occupational Safety and Health Administration

Form Approved
OMB No. 44-R1387

MATERIAL SAFETY DATA SHEET

Required under USDL Safety and Health Regulations for Ship Repairing, Shipbuilding, and Shipbreaking (29 CFR 1915, 1916, 1917)

SECTION I

MANUFACTURER'S NAME	EMERGENCY TELEPHONE NO.
NATIONAL LABORATORIES	201-391-8500
ADDRESS (Number, Street, City, State, and ZIP Code): 225 SUMMIT AVE., MONTVALE, N.J. 07645	
CHEMICAL NAME AND SYNONYMS: Heavy Duty Alkaline Cleaner & Degreaser	TRADE NAME AND SYNONYMS: GRIMEX
CHEMICAL FAMILY	FORMULA

SECTION II - HAZARDOUS INGREDIENTS

PAINTS, PRESERVATIVES, & SOLVENTS	%	TLV (Units)	ALLOYS AND METALLIC COATINGS	%	TLV (Units)
PIGMENTS NOT APPLICABLE			BASE METAL NOT APPLICABLE		
CATALYST NOT APPLICABLE			ALLOYS NOT APPLICABLE		
VEHICLE NOT APPLICABLE			METALLIC COATINGS NOT APPLICABLE		
SOLVENTS NOT APPLICABLE			FILLER METAL PLUS COATING OR CORE FLUX NOT APPLICABLE		
ADDITIVES NOT APPLICABLE			OTHERS		
OTHERS					

HAZARDOUS MIXTURES OF OTHER LIQUIDS, SOLIDS, OR GASES	%	TLV (Units)
Phosphates	<10	
Potassium Hydroxide	<10	

SECTION III - PHYSICAL DATA

BOILING POINT (°F.) NOT AVAILABLE		SPECIFIC GRAVITY (H_2O=1)	1.131
VAPOR PRESSURE (mm Hg.) NOT AVAILABLE		PERCENT, VOLATILE BY VOLUME (%) NOT AVAILABLE	
VAPOR DENSITY (AIR=1) NOT AVAILABLE		EVAPORATION RATE (_____=1) NOT AVAILABLE	
SOLUBILITY IN WATER	Complete		
APPEARANCE AND ODOR: Clear Liquid with mild odor.			

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (Method used) >200°F Tag Closed Cup	FLAMMABLE LIMITS	Lel	Uel
EXTINGUISHING MEDIA: None required — non-flammable			
SPECIAL FIRE FIGHTING PROCEDURES			
UNUSUAL FIRE AND EXPLOSION HAZARDS			

(Continued on reverse side)

SECTION V - HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE: NOT APPLICABLE

EFFECTS OF OVEREXPOSURE

EMERGENCY AND FIRST AID PROCEDURES WARNING: Causes eye irritation. Harmful if swallowed. Contains alkaline materials. Avoid contact with eyes. In case of eye contact, flush with plenty of water for 15 minutes. Call a physician. If swallowed, do not induce vomiting. Call a physician immediately. Administer large quantities of milk or egg whites beaten in water.

SECTION VI - REACTIVITY DATA

STABILITY	UNSTABLE		CONDITIONS TO AVOID
	STABLE	X	

INCOMPATABILITY *(Materials to avoid)*: Avoid Acid Materials

HAZARDOUS DECOMPOSITION PRODUCTS

HAZARDOUS POLYMERIZATION	MAY OCCUR		CONDITIONS TO AVOID
	WILL NOT OCCUR	X	

SECTION VII - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

Wear rubber or plastic gloves and goggles and absorb with rags or saw dust.

WASTE DISPOSAL METHOD

Dispose in trash collection.

SECTION VIII - SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION *(Specify type)*: NOT APPLICABLE

VENTILATION	LOCAL EXHAUST: NOT APPLICABLE	SPECIAL
	MECHANICAL *(General)*: NOT APPLICABLE	OTHER

PROTECTIVE GLOVES: Wear rubber or plastic gloves.

EYE PROTECTION: Wear goggles when handling.

OTHER PROTECTIVE EQUIPMENT

SECTION IX - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING: Keep out of reach of children.

OTHER PRECAUTIONS

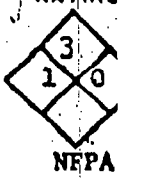
MEK (24)

ADAPTED FROM USDL
FORM NO. LSB-003-4-MAY 1969

SHELL OIL COMPANY
SHELL CHEMICAL COMPANY
SHELL DEVELOPMENT COMPANY
SHELL PIPE LINE CORPORATION

MSDS 5300-1

HAZARD RATING



NFPA

MATERIAL SAFETY DATA SHEET

Information on this form is furnished solely for the purpose of compliance with the Occupational Safety and Health Act of 1970 and shall not be used for any other purpose. Use or dissemination of all or any part of this information for any other purpose may result in a violation of law or constitute grounds for legal action.

SECTION I

MANUFACTURER'S NAME	EMERGENCY TELEPHONE NO.
Shell Chemical Company	(713) 473-9461
ADDRESS (Number, Street, City, State, and ZIP Code)	
One Shell Plaza, P. O. Box 2463, Houston, Texas 77001	
CHEMICAL NAME AND SYNONYMS: Methyl ethyl ketone/butanone-2 (MEK)	TRADE NAME
CHEMICAL FAMILY: Ketones	FORMULA: $CH_3 CO C_2 H_5$

SECTION II HAZARDOUS INGREDIENTS*

COMPOSITION	%	SPECIES	LD_{50} ORAL	LD_{50} DERMAL	LC_{50} CONCENTRATION	LC_{50} HOURS
Methyl ethyl ketone	100	Rat	3.3 g/kg		>2,000 ppm	4
		Rabbit		>8 ml/kg		

SECTION III PHYSICAL DATA

BOILING POINT, °F	175	SPECIFIC GRAVITY (H_2O=1) 60/60°F	0.81
VAPOR PRESSURE (mmHg) @ 68°F	75	PERCENT VOLATILE BY VOLUME (%)	
VAPOR DENSITY (AIR=1)	2.5	EVAPORATION RATE (n-BuAc = 1)	3.8
SOLUBILITY IN WATER	27% w	(Fast evaporating)	

APPEARANCE AND ODOR
Colorless, mobile liquid. Pungent odor.

SECTION IV FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (Method used)	FLAMMABLE LIMITS	Lel	Uel
20°F TCC		1.8	11.5

EXTINGUISHING MEDIA
"Alcohol foam", CO_2, dry chemical, water spray or fog.

SPECIAL FIRE FIGHTING PROCEDURES
Very volatile and extremely flammable.

UNUSUAL FIRE AND EXPLOSION HAZARDS
None.

*Modified by Shell Oil Company

SECTION V HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE
200 ppm (OSHA)

EFFECTS OF OVEREXPOSURE
Eye and nose irritation, dizziness, headache, nausea, lack of coordination, unconsciousness.

EMERGENCY AND FIRST AID PROCEDURES
Inhalation-Remove victim to fresh air. Give artificial respiration if breathing has stopped. Seek medical attention. Eyes-Flush with water for at least 15 minutes. Seek medical attention. Swallowing-Induce vomiting. Seek medical attention. Skin-Wash with soap and water.

SECTION VI REACTIVITY DATA

STABILITY	UNSTABLE		CONDITIONS TO AVOID: Sparks and open flame.
	STABLE	X	

INCOMPATIBILITY (Materials to avoid)
Strong oxidizing agents.

HAZARDOUS DECOMPOSITION PRODUCTS

HAZARDOUS POLYMERIZATION	MAY OCCUR		CONDITIONS TO AVOID
	WILL NOT OCCUR	X	

SECTION VII SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED If the spill is large, evacuate the area. Very volatile and extremely flammable. Eliminate ignition sources. Wear appropriate clothing and breathing apparatus. Keep out of sewers and other public water systems. Notify authorities if this happens or is threatened. Ventilate the area. Dike and pump off large spills into salvage or storage containers. Take up residue and small spills with absorbent material such as clay or vermiculite. Place in leak-proof steel drums for disposal. Seal and mark "Flammable Liquid."

WASTE DISPOSAL METHOD

Controlled incineration or burial in approved landfill.

SECTION VIII SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (Specify type)
NIOSH approved air pack or organic canister

VENTILATION	LOCAL EXHAUST: As required to maintain TLV	SPECIAL
	MECHANICAL (General): Recommended	OTHER
[redacted]	Outdoor	[redacted]
[redacted]	Impervious [redacted]	

SECTION IX SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING
Extremely flammable and very volatile. Use in well ventilated areas.

OTHER PRECAUTIONS
Use good personal hygiene.

Shell Oil Company
Product Safety & Compliance
Oil & Chemical Products

DATE October 1978

MATERIAL SAFETY DATA SHEET

(Approved by U.S. Department of Labor "Essentially Similar" to Form LSB-00S-4)

NFPA 0-0-0

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Section I

MANUFACTURER'S NAME: Tennessee Eastman Company

STREET ADDRESS:

CITY, STATE, AND ZIP CODE: Kingsport, Tennessee 37662

EMERGENCY TELEPHONE NO.: 615-247-0411

CHEMICAL NAME AND SYNONYMS: Methyl Ethyl Ketone, 2-Butanone

TRADE NAME: MEK

CHEMICAL FAMILY: Ketone

FORMULA: $CH_3COC_2H_5$

Section II — HAZARDOUS INGREDIENTS

PAINTS, PRESERVATIVES, & SOLVENTS

PIGMENTS	%	TLV (Units)	SOLVENTS	%	TLV (Units)
CATALYST			ADDITIVES		
VEHICLE			OTHERS		

HAZARDOUS MIXTURES OF OTHER LIQUIDS, SOLIDS, OR GASES	%	TLV (Units)

Section III — PHYSICAL DATA

BOILING POINT (°F)	175.3°F	SPECIFIC GRAVITY (H_2O=1)	0.8061 @ 20/20°C
VAPOR PRESSURE (mm Hg.)		PERCENT VOLATILE BY VOLUME (%)	100
VAPOR DENSITY (AIR=1)	2.5	EVAPORATION RATE (n Butyl Acetate =1)	5.7
SOLUBILITY IN WATER, % by wt. @ 20°C	26.8	Molecular Weight	72.10
APPEARANCE AND ODOR	Clear liquid; non-residual		

Section IV — FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (METHOD USED)	22°F Tag Open Cup	FLAMMABLE LIMITS	1.8 Lel	10 Uel

EXTINGUISHING MEDIA: Carbon Dioxide or Dry Chemical

SPECIAL FIRE FIGHTING PROCEDURES: None

UNUSUAL FIRE AND EXPLOSION HAZARDS: None

Section V — HEALTH HAZARD DATA

ESHOLD LIMIT VALUE: 200 parts per million

EFFECTS OF OVEREXPOSURE: Irritation of nose, throat, eyes

Is this material a sensitizer?

EMERGENCY AND FIRST AID PROCEDURES: Remove to fresh air; treat symptomatically. Flush skin and eye contact with water. If swallowed, induce vomiting.

Section VI — REACTIVITY DATA

STABILITY	UNSTABLE		CONDITIONS TO AVOID: None
	STABLE	X	

INCOMPATABILITY (Materials to avoid): None

HAZARDOUS DECOMPOSITION PRODUCTS: None

HAZARDOUS POLYMERIZATION	MAY OCCUR		CONDITIONS TO AVOID: None
	WILL NOT OCCUR	X	

Section VII — SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

Eliminate all sources of ignition. Flush with water.

WASTE DISPOSAL METHOD: Automize into an incinerator.

Section VIII — SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (Specify type)

VENTILATION	LOCAL EXHAUST: X	SPECIAL: None	
	MECHANICAL (General)	OTHER: None	

PROTECTIVE GLOVES: Rubber | EYE PROTECTION: safety glasses/face shield

OTHER PROTECTIVE EQUIPMENT: None

Section IX — SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING: Flammable liquid; use with adequate ventilation; avoid prolonged or repeated contact with skin and repeated breathing.

OTHER PRECAUTIONS

Copper and Brass Sales INC

MATERIAL SAFETY DATA SHEET
MICARTA

COMPANY	ISSUE DATE	IDENTIFICATION NUMBER
Copper and Brass Sales, Inc. 17401 Ten Mile Road East Detroit, Michigan 48021	November 25, 1985	N/A

TRADE NAME (Common Name or Synonym)	EMERGENCY PHONE NUMBER
Micarta	313-775-7710

CHEMICAL NAME	FORMULA	DOT IDENTIFICATION NUMBER
N/A	Glass cloth, paper, silicon, phenolic, melamine opoxy composite	N/A

SECTION II — HAZARDOUS INGREDIENTS

PAINTS, PRESERVATIVES, & SOLVENTS		%	TLV (Units)	ALLOYS AND METALLIC COATINGS		%	TLV (Units)
PIGMENTS	N/A			BASE METAL	N/A		
CATALYST	N/A			ALLOYS	N/A		
VEHICLE	N/A			METALLIC COATINGS	N/A		
SOLVENTS	N/A			FILLER METAL PLUS COATING OR CORE FLUX	N/A		
ADDITIVES	N/A			OTHERS	N/A		
OTHERS	N/A						

HAZARDOUS MIXTURES OF OTHER LIQUIDS, SOLIDS, OR GASES	%	TLV (Units)
N/A		

SECTION III - PHYSICAL DATA

BOILING POINT (°F.)	N/A		SPECIFIC GRAVITY ($H_2O = 1$)	N/A	
VAPOR PRESSURE (mm Hg.)	N/A		PERCENT, VOLATILE BY VOLUME (%)	N/A	
VAPOR DENSITY (AIR = 1)	N/A		EVAPORATION RATE (_____ = 1)	N/A	
SOLUBILITY IN WATER	N/A				

APPEARANCE AND ODOR Flat sheet or shape - Natural tan in color - slight phenolic odor.

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (Method used)		FLAMMABLE LIMITS	Lel	Uel
N/A				

EXTINGUISHING MEDIA
CO^2 water foam - same as for wood fire.

SPECIAL FIRE FIGHTING PROCEDURES
Same as for wood fire - Do not breathe fumes from burning laminate.

UNUSUAL FIRE AND EXPLOSION HAZARDS
No explosion hazards

SECTION V - HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE
N/A

EFFECTS OF OVEREXPOSURE
N/A

EMERGENCY AND FIRST AID PROCEDURES
Prolonged skin exposure to dust may cause skin irritation. Wash exposed skin with soap and water.

SECTION VI - REACTIVITY DATA

STABILITY	UNSTABLE		CONDITIONS TO AVOID	N/A
	STABLE	X		N/A

INCOMPATABILITY (Materials to avoid)
N/A

HAZARDOUS DECOMPOSITION PRODUCTS
Fumes with obnoxious odor produced if overheated.

HAZARDOUS POLYMERIZATION	MAY OCCUR		CONDITIONS TO AVOID	N/A
	WILL NOT OCCUR	X		N/A

SECTION VII - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED
N/A

WASTE DISPOSAL METHOD
Conform to local, state and federal regulations for disposal of thermoset laminates - solids.

SECTION VIII - SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (Specify type)
3-M No. 8710 non-toxic particle mask when machining.

VENTILATION	LOCAL EXHAUST	SPECIAL: N/A
	MECHANICAL (General): Dust collector ventilation system	OTHER: N/A

PROTECTIVE GLOVES: Ordinary gloves	EYE PROTECTION: Safety glasses while machining.

OTHER PROTECTIVE EQUIPMENT

SECTION IX - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING
Use correct saw blade, blade RPM and feed speed to prevent overheating of thin laminates - use wet saw for laminates over 1" thick - use eye protection.

OTHER PRECAUTIONS
Use good dust collecting system. Use ordinary precautions as in sawing or machining of wood and similar materials.

The information in this MSDS was obtained from sources which we believe are reliable. However, the information is provided without any representation or warranty, express or implied, regarding the accuracy or correctness.

The conditions or methods of handling storage, use and disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product.

Data sheets of individual manufacturers may be obtained by contacting Copper & Brass Sales, Inc., 17401 Ten Mile Rd., E. Detroit, MI 48021.

MATERIAL SAFETY DATA SHEET

TOOLTEX® SOLUBLE OIL

MSDS No. APPC 447

Rev. Date 12/12/84

ARCO PETROLEUM PRODUCTS COMPANY
DIVISION OF ATLANTIC RICHFIELD COMPANY
515 SOUTH FLOWER STREET
LOS ANGELES, CALIFORNIA 90071

IMPORTANT: Read this MSDS before handling and disposing of this product and pass this information on to employees, customers, and users of this product

I. General

Trade Name	TOOLTEX SOLUBLE OIL
Other Names	EMULSIFIABLE CUTTING FLUID EMULSIFIABLE METAL-WORKING COOLANT

Telephone Numbers
EMERGENCY
800/424-9300 CHEMTREC
312/210-3000 COMPANY
CUSTOMER SERVICE
213/486-8258 INFO ONLY

Chemical Family	PETROLEUM HYDROCARBONS AND ADDITIVES
Generic Name	METAL-WORKING OIL

DOT Hazardous Materials Proper Shipping Name
NOT DEFINED AS A "HAZARDOUS MATERIAL"

DOT Hazard Class
NOT REGULATED

CAS No.	Company ID No. 1740017400	UN/NA ID No.

II. Summary of Hazards

CAUTION

USE WITH ADEQUATE VENTILATION AND AVOID BREATHING HIGH CONCENTRATIONS OF MISTS OR VAPORS.

AVOID EYE CONTACT AND PROLONGED OR REPEATED SKIN CONTACT.
SLIGHTLY COMBUSTIBLE! OSHA/NFPA CLASS-IIIB COMBUSTIBLE LIQUID.

III. Fire and Explosion

Flash Point (Method)	Autoignition Temperature (Method)	Flammable Limits (% Vol. in Air)
AP 300° F (D-92) SEE FIREFIGHTING PROCEDURES	AP 700° F (EST.) BASED ON PETROLEUM COMPONENTS	Lower N/AP Upper N/AP

Unusual Fire and Explosion Hazards: THE FLASH POINT DISPLAYED ABOVE REFERS TO ONLY THE PETROLEUM COMPONENTS OF THIS PRODUCT. WHEN HEATED ABOVE ITS FLASH POINT (AP 300° F.), THIS MATERIAL WILL RELEASE FLAMMABLE VAPORS WHICH CAN BURN OR BE EXPLOSIVE IN CONFINED SPACES IF EXPOSED TO A SOURCE OF IGNITION. MISTS OR SPRAYS MAY BE FLAMMABLE AT LOWER TEMPERATURES. KEEP AWAY FROM EXTREME HEAT AND OPEN FLAME.

Extinguishing Media: DRY CHEMICAL AND CO_2. FOAM AND WATER FOG ARE EFFECTIVE BUT MAY CAUSE FROTHING.

Special Firefighting Procedures: THIS PRODUCT CONTAINS A SMALL AMOUNT OF WATER AND IT IS EMULSIFIABLE IN WATER WITH AGITATION. FOR FIRES INVOLVING THIS MATERIAL, DO NOT ENTER ANY ENCLOSED OR CONFINED FIRE SPACE WITHOUT PROPER PROTECTIVE EQUIPMENT. THIS MAY INCLUDE SELF-CONTAINED BREATHING APPARATUS TO PROTECT AGAINST THE HAZARDOUS EFFECTS OF COMBUSTION PRODUCTS AND OXYGEN DEFICIENCIES. IF FIREFIGHTERS CANNOT WORK UPWIND TO THE FIRE, RESPIRATORY PROTECTIVE EQUIPMENT MUST BE WORN. COOL TANKS AND CONTAINERS EXPOSED TO FIRE WITH WATER.

IV. Health Hazards

Primary Hazard	SKIN IRRITATION FROM PROLONGED AND/OR REPEATED EXPOSURES AND LACK OF PERSONAL HYGIENE.

ROUTE OF EXPOSURE	SIGNS AND SYMPTOMS
Inhalation	BREATHING OF MIST OR VAPORS MAY CAUSE MUCOUS MEMBRANE OR UPPER RESPIRATORY TRACT IRRITATION.
Eye Contact	EYE IRRITATION MAY RESULT FROM MISTS AND/OR CONTACT WITH LIQUID.
Skin Absorption	NO SIGNIFICANT ADVERSE EFFECTS ARE EXPECTED TO OCCUR UPON SHORT-TERM EXPOSURE.
Skin Irritation	PROLONGED OR REPEATED SKIN CONTACT WITH SIMILAR MATERIALS HAS PRODUCED SLIGHT IRRITATION AND INFLAMMATION.
Ingestion	THIS MATERIAL MAY BE IRRITATING TO THE DIGESTIVE TRACT.
Effects Of Overexposure	CONTACT OF THE OIL WITH EYES MAY RESULT IN SLIGHT EYE IRRITATION. PROLONGED OR REPEATED SKIN CONTACT MAY CAUSE IRRITATION AND/OR MORE SERIOUS SKIN DISORDERS.

V. Protective Equipment

Respiratory	THIS MATERIAL IS NOT EXPECTED TO PRESENT A RESPIRATORY HAZARD BECAUSE OF ITS LOW VAPOR PRESSURE. BUT, IF EXCESSIVE MIST OR VAPORS RESULT FROM CONDITIONS OF USAGE, NIOSH/MSHA APPROVED RESPIRATORY EQUIPMENT MUST BE WORN.
Ventilation	USE ADEQUATE VENTILATION TO KEEP MISTS AND VAPORS OF THIS MATERIAL BELOW THE APPLICABLE EXPOSURE GUIDELINE(S)/STANDARD(S). (SEE SECTION VI. "OCCUPATIONAL EXPOSURE LIMITS")
Eye	EYE PROTECTION (CHEMICAL-TYPE GOGGLES AND/OR FACE SHIELD) SHOULD BE WORN WHENEVER THERE IS A LIKELIHOOD OF SPLASHING OR SPRAYING LIQUID. CONTACT LENSES SHOULD NOT BE WORN. EYE WASH WATER SHOULD BE PROVIDED.
Skin	AVOID PROLONGED AND/OR REPEATED SKIN CONTACT. IF CONDITIONS OR FREQUENCY OF USE MAKE CONTACT UNAVOIDABLE, CLEAN AND IMPERVIOUS PROTECTIVE CLOTHING SUCH AS GLOVES, APRON, BOOTS, AND FACIAL PROTECTION SHOULD BE WORN.
Other	EMERGENCY EYE WASH FOUNTAINS SHOULD BE AVAILABLE IN THE VICINITY OF ANY POTENTIAL EXPOSURE, AND A SAFETY SHOWER SHOULD ALSO BE AVAILABLE IF THE MATERIAL IS BEING HANDLED HOT. (SEE SECTION XI. - HANDLING AND STORAGE.)

VI. Occupational Exposure Limits

	Substance	Source	Date
1.	OIL MIST, MINERAL (SEE SECTION XI.)	ACGIH	1984

Exposure Limit Value/Time	Short Term Limit/Time	Peak Limit
5 MG/M3 / 8 HOURS	10 MG/M3 / 15 MINUTES	

	Substance	Source	Date
2.	OIL MIST, MINERAL (SEE SECTION XI.)	OSHA	1984

Exposure Limit Value/Time	Short Term Limit/Time	Peak Limit
5 MG/M3 / 8 HOURS		

VII. Emergency and First Aid

Inhalation	VAPORIZATION IS NOT EXPECTED AT AMBIENT TEMPERATURES, BUT SHOULD INHALATION OCCUR, IMMEDIATELY REMOVE PERSONNEL FROM CONTAMINATED AREA TO FRESH AIR. OBTAIN MEDICAL ATTENTION IF THERE ARE SIGNS OF BREATHING DIFFICULTIES.
Eye Contact	FLUSH EYES WITH CLEAN, LOW-PRESSURE WATER FOR AT LEAST 15 MINUTES, OCCASIONALLY LIFTING THE EYELIDS. IF PAIN OR REDNESS PERSISTS AFTER FLUSHING, OBTAIN MEDICAL ATTENTION.
Skin Contact	REMOVE BY WIPING; THEN WASH SKIN THOROUGHLY WITH PLENTY OF SOAP AND WATER. REMOVE CONTAMINATED CLOTHING AND THOROUGHLY CLEAN BEFORE REUSE.
Ingestion	IF MORE THAN A HALF-CUP FULL OF THIS MATERIAL IS SWALLOWED, GIVE QUANTITIES OF WATER, INDUCE VOMITING, AND PROMPTLY OBTAIN MEDICAL ATTENTION.
Note to Physician	OTHER THAN DESCRIBED ABOVE, NO ADDITIONAL EMERGENCY TREATMENT IS NECESSARY.

VIII. Spill and Disposal

Precautions if Material is Spilled or Released	CONTAIN SPILL AND PREVENT IT FROM ENTERING ALL WATER BODIES, IF POSSIBLE. SAFELY STOP FLOW OF SPILL. EVACUATE NON-ESSENTIAL PERSONNEL FROM IMMEDIATE SPILL AREA DUE TO SLIPPING HAZARDS. IN URBAN AREA, CLEANUP AS SOON AS POSSIBLE; IN NATURAL ENVIRONMENTS, CLEANUP ON ADVICE FROM ECOLOGISTS. THIS MATERIAL WILL FLOAT ON WATER. ABSORBANT MATERIALS AND PADS CAN BE USED. NOTIFY THE NATIONAL RESPONSE CENTER (800/424-8802) AND COMPLY WITH ALL APPLICABLE LAWS. THE SPILLED MATERIAL AND ANY WATER OR SOIL WHICH IT HAS CONTACTED MAY BE HAZARDOUS TO ANIMAL/AQUATIC LIFE.
Waste Disposal Methods	MAXIMIZE PRODUCT RECOVERY FOR REUSE OR RECYCLING. CONDITIONS OF USE MAY CAUSE THIS MATERIAL TO BECOME A "HAZARDOUS WASTE" AS DEFINED BY STATE OR FEDERAL LAWS. USE APPROVED TREATMENT, TRANSPORTERS, AND DISPOSAL SITES IN COMPLIANCE WITH ALL LAWS. IF SPILL IS INTRODUCED INTO A WASTEWATER SYSTEM, THE CHEMICAL AND BIOLOGICAL OXYGEN DEMAND WILL LIKELY INCREASE. PROPERLY ACCLIMATE THE BIOMASS TO THE SPILL MATERIAL. POTENTIAL TREATMENT AND DISPOSAL METHODS INCLUDE LAND FARMING, INCINERATION, AND LAND DISPOSAL, IF PERMITTED.

IX. Components

(This may not be a complete list of components)

Component Name	CAS No.		Composition amount (Wt.) (See Note on Page 4)
HYDROTREATED HEAVY NAPHTHENIC DISTILLATE (PETROLEUM)	64742-52-5*	GT	85 PERCENT
EMULSIFIER(S)		AP	7 PERCENT
SOLVENT-DEWAXED HEAVY PARAFFINIC DISTILLATE (PETROLEUM)	64742-65-0*	LT	5 PERCENT
SURFACTANT(S)		LT	2 PERCENT
WATER	7732-18-5	LT	1 PERCENT

Compositions given are typical values, not specifications.

Physical and Chemical Data

Boiling Point AP 212°F	Evaporation Rate (Ratio of Time)		Dry Point N/AP
Freezing Point N/DA	Vapor Pressure (MM HG AT 70°F) LT 0.1		Volatile Characteristics NEGLIGIBLE
Specific Gravity (H_2O = 1 at 39.2°F) AP 0.91	Vapor Sp. Gr. (Air = 1.0 at 60° - 90°F) GT 10	Solubility in Water EMULSIFIES	Stability STABLE
Hazardous Polymerization WILL NOT EXPECTED TO OCCUR	Viscosity Units, Temp., Method AP 165 SUS AT 100°F D2161		pH N/DA

Other Physical and Chemical Properties	TYPICAL WATER CONTENT = AP 0.7 WT.% (ASTM D1744). TYPICAL KINEMATIC VISCOSITY = 36 CST @ 100°F.
Appearance and Odor	CREAM-COLORED LIQUID; LUBE OIL ODOR.
Conditions to Avoid	EXTREME HEAT AND OPEN FLAME.
Materials to Avoid	STRONG ACIDS, ALKALIES, AND OXIDIZERS SUCH AS LIQUID CHLORINE AND OXYGEN.
Hazardous Decomposition Products	BURNING OR EXCESSIVE HEATING MAY PRODUCE CO AND OTHER HARMFUL GASES/VAPORS INCLUDING OXIDES AND/OR OTHER COMPOUNDS OF SODIUM AND SULFUR.

Additional Precautions

Handling and Storage

USE GOOD PERSONAL HYGIENE PRACTICES. WASH HANDS WITH PLENTY OF SOAP AND WATER BEFORE EATING, DRINKING, SMOKING, OR USE OF TOILET FACILITIES. TAKE A SHOWER AFTER WORK. DO NOT USE SOLVENTS (GASOLINE, KEROSENE, ETC.) OR HARSH ABRASIVE SKIN CLEANERS FOR WASHING EXPOSED SKIN. REMOVE OIL-SOAKED CLOTHING AND LAUNDER BEFORE REUSE. DISCARD CONTAMINATED LEATHER GLOVES AND SHOES.

General Comments

ADDING ANY SUPPLEMENTAL CHEMICAL TO THIS PRODUCT AT ITS POINT-OF-USE SHOULD BE DONE ONLY AFTER CAREFUL CONSIDERATION OF POSSIBLE OCCUPATIONAL HEALTH EFFECTS.

SINCE SPECIFIC EXPOSURE STANDARDS/CONTROL LIMITS HAVE NOT BEEN ESTABLISHED FOR THIS MATERIAL, THE EXPOSURE LIMITS SHOWN IN SECTION VI. ARE SUGGESTED AS MINIMUM CONTROL GUIDELINES FOR INTERIM USE. FOLLOW OTHER APPROPRIATE EXPOSURE STANDARDS/GUIDELINES AS THEY BECOME AVAILABLE.

SOME OF THE INFORMATION PRESENTED AND CONCLUSIONS DRAWN HEREIN ARE FROM SOURCES OTHER THAN DIRECT TEST DATA ON THE MIXTURE ITSELF.

- - - Note - - - Qualifications:

EQ = Equal	AP = Approximately	N/AV = Not Available
LT = Less Than	UK = Unkown	N/AP = Not Applicable
GT = Greater Than	TR = Trace	N/DA = No Data Available

MATERIAL SAFETY DATA SHEET

I. MATERIAL IDENTIFICATION

Name: Conoco Super Hydraulic Oil 22, 32, 46, 68
Conoco Product Code: 7447/7448/7449/7450
Synonyms: Petroleum Hydraulic Oil
Chemical Family: Petroleum Hydrocarbon
Manufacturer: Conoco Inc.
Address: P.O. Box 1267, Ponca City, OK 74603

CAS Registry No.: Mixture
Transportation Emergency No.:
(800) 424-9300 (Chemtrec)
Product Information No.:
(405) 767-6000

II. HAZARDOUS INGREDIENTS — HAZARD DATA

Hazard Determination:
Health Effect Properties: None. — Not applicable.

Physical Effect Properties:
Product/Mixture: None. — Not applicable.

III. PHYSICAL DATA

Appearance and Odor: Brown liquid; mild petroleum hydrocarbon odor.

Boiling Range (Deg.F)	650-1060	Specific Gravity (H_2O=1)	0.86
Vapor Pressure (mmHg)	Nil	% Volatile (by volume)	Nil
Vapor Density (Air=1)	Not Applicable	Evaporation Rate (=1)	Nil
Solubility in Water	Insoluble		

IV. REACTIVITY DATA — Stable: X Unstable:

Hazardous Decomposition Products: Normal combustion forms carbon dioxide. Incomplete combustion may product carbon monoxide.

Conditions To Avoid: Strong oxidizing materials, heat, flame.

Hazardous Polymerization: Will not occur.

August 29, 1985

CAS Registry No.: Mixture

V. FIRE AND EXPLOSION HAZARD DATA

Flash Point (Method used): 285F (PM) Autoignition Temperature: 650F
Handle and store in accordance with NFPA procedure for Class III B Combustible Liquid.

Extinguishing Media: Use water spray, dry chemical, foam, or carbon dioxide.

Special Fire Fighting Procedures: Water or foam may cause frothing. Use water to keep fire-exposed containers cool. Water spray may be used to flush spills away from exposures.

Unusual Fire and Explosion Hazards: Products of combustion may contain carbon monoxide, carbon dioxide, and other toxic materials. Do not enter enclosed or confined space without proper protective equipment including respiratory protection.

National Fire Protection Agency (NFPA) CLASSIFICATION	HAZARD RATING
Health 0 Fire 1 Reactivity 0	Least - 0 Slight - 1 Moderate - 2 High - 3 Extreme - 4

VI. TRANSPORTATION AND STORAGE

DOT HAZARD CLASS: Not Applicable

Precautions To Be Taken In Handling And Storing: Product is Class III B Combustible Liquid per NFPA Code No. 30-1984. Store and handle accordingly.

Shipping Paper Description: Not D.O.T. Regulated.

Placard: Not D.O.T. Regulated.

Label: Not D.O.T. Regulated.

VII. HEALTH HAZARD INFORMATION

PEL Not Established TLV Not Established
Ceiling Value Not Established AEL Not Established

Primary Route of Exposure/Entry: Skin.

Signs and Symptoms of Exposure/Medical Conditions Aggravated By Exposure:
No adverse health effect has been identified specifically for this product. Health effect information from animal and human studies has been included on related materials, even though health experts may disagree as to the significance of this data.

Mouse skin painting studies have shown that highly solvent-refined petroleum distillates having a boiling point below 700F, and which are similar to ingredients in this product, have not caused skin tumors. Studies of petroleum workers have not shown a significant increased incidence of skin tumors.

CAS Registry No.: Mixture

VII. HEALTH HAZARD INFORMATION (continued)

The product may cause irritation to eyes, lungs, or skin after prolonged or repeated exposure.

Listed as Carcinogen or Potential Carcinogen by: NTP No IARC No OSHA No

VIII. EMERGENCY AND FIRST AID PROCEDURES

Eyes: Immediately wash with fresh water for at least 15 minutes and get medical attention.

Skin: Remove contaminated clothing as soon as possible. Wash exposed skin thoroughly with soap and water. If irritation persists, consult a physician.

Launder contaminated clothing before reuse. Extremely contaminated leather shoes should be discarded.

Inhalation: If overexposure occurs, remove individual to fresh air. If breathing stops, administer artificial respiration.

Ingestion: If this material is swallowed, do not induce vomiting. If vomiting begins, lower victim's head in an effort to prevent vomitus from entering lungs. Immediately consult a physician. Do not attempt to give liquid to an unconscious person.

Note to Physicians: Gastric lavage by qualified medical personnel may be considered, depending on quantity of material ingested.

IX. SPILL, LEAK AND DISPOSAL PROCEDURES

RCRA HAZARDOUS WASTE: Yes _____ No X

In Case Of Spill Or Leak: Contain spill immediately in smallest area possible. Recover as much of the product itself as possible by such methods as vacuuming, followed by soaking up residual fluids by use of absorbent materials. Remove contaminated items including soils and place in proper container for disposal. Avoid washing, draining or directing material to storm or sanitary sewers.

Waste Disposal Method: Recycle as much of the recoverable product as possible. Dispose of nonrecyclable material by such methods as controlled incineration, complying with federal, state and local regulations.

CAS Registry No.: Mixture

X. PRECAUTIONARY MEASURES

Respiratory Protection: None required except under unusual circumstances such as described in Section V.

Ventilation: Normal shop ventilation.

Protective Gloves: Impervious.

Eye Protection: Safety glasses with side shields.

Other Protective Equipment: Coveralls.

August 29, 1985

CAS Registry No.: Mixture

V. FIRE AND EXPLOSION HAZARD DATA

Flash Point (Method used): 340F (PMCC) Autoignition Temperature: 650F
Handle and store in accordance with NFPA procedure for Class III B Combustible Liquids.

Extinguishing Media: Use water spray, dry chemical, foam, or carbon dioxide.

Special Fire Fighting Procedures: Water or foam may cause frothing. Use water to keep fire-exposed containers cool. Water spray may be used to flush spills away from exposures.

Unusual Fire and Explosion Hazards: Products of combustion may contain carbon monoxide, carbon dioxide, and other toxic materials. Do not enter enclosed or confined space without proper protective equipment including respiratory protection.

National Fire Protection Agency (NFPA) CLASSIFICATION			HAZARD RATING		
Health 0	Fire 1	Reactivity 0	Least - 0	Slight - 1	Moderate - 2
			High - 3	Extreme - 4	

VI. TRANSPORTATION AND STORAGE — DOT HAZARD CLASS: Not Applicable

Precautions To Be Taken In Handling And Storing: Product is Class III B Combustible Liquid per NFPA Code No. 30-1984. Store and handle accordingly.

Shipping Paper Description: Not D.O.T. Regulated.

Placard: Not D.O.T. Regulated.

D.O.T. Label: Not Regulated.

OSHA Label (Recommended): CAUTION: Prolonged or repeated skin contact with used motor oil may be harmful. Wash thoroughly with soap and water after use.

VII. HEALTH HAZARD INFORMATION

PEL Not Established TLV Not Established
Ceiling Value Not Established AEL Not Established

Primary Route of Entry: Skin.

Signs and Symptoms of Exposure/Medical Conditions Aggravated By Exposure:
No adverse health effect has been identified specifically for this product. Health effect information from animal and human studies has been included on related materials, even though health experts may disagree as to the significance of this data.

Mouse skin painting studies have shown that highly solvent-refined petroleum distillates having a boiling point below 700F, and which are similar to ingredients in this product, have not caused skin tumors. Studies of petroleum workers have not shown a significant increased incidence of skin tumors.

October 21, 1985

CAS Registry No.: Mixture

VII. HEALTH HAZARD INFORMATION (continued)

The product may cause irritation to eyes, lungs, or skin after prolonged or repeated exposure.

Laboratory studies have shown that mice developed skin cancer following repeated skin application of, and continuous exposure to, used motor oil. In these studies, the used motor oil was not removed between applications. Health hazards to used motor oil can be minimized by avoiding prolonged skin contact.

Listed as Carcinogen or Potential Carcinogen by: NTP No IARC No OSHA No

VIII. EMERGENCY AND FIRST AID PROCEDURES

Eyes: Immediately wash with fresh water for at least 15 minutes and get medical attention.

Skin: Remove contaminated clothing as soon as possible. Wash exposed skin thoroughly with soap and water. If irritation persists, consult a physician.

Launder contaminated clothing before reuse. Extremely contaminated leather shoes should be discarded.

If exposed to hot oil, immediately cool with cold water. Do not attempt to remove oil but continue to cool exposed areas with cold packs and seek medical attention.

Inhalation: If overexposure occurs, remove individual to fresh air. If breathing stops, administer artificial respiration.

Ingestion: If this material is swallowed, do not induce vomiting. If vomiting begins, lower victim's head in an effort to prevent vomitus from entering lungs. Immediately consult a physician. Do not attempt to give liquid to an unconscious person.

Note to Physicians: Gastric lavage by qualified medical personnel may be considered, depending on quantity of material ingested.

IX. SPILL, LEAK AND DISPOSAL PROCEDURES

RCRA HAZARDOUS WASTE: Yes _____ No X

In Case Of Spill Or Leak: Contain spill immediately in smallest area possible. Recover as much of the product itself as possible by such methods as vacuuming, followed by soaking up residual fluids by use of absorbent materials. Remove contaminated items including solids and place in proper container for disposal. Avoid washing, draining or directing material to storm or sanitary sewers.

Waste Disposal Method: Recycle as much of the recoverable product as possible. Dispose of nonrecyclable material by such methods as controlled incineration, complying with federal, state and local regulations.

CAS Registry No.: Mixture

X. PRECAUTIONARY MEASURES

Respiratory Protection: None required except under unusual circumstances such as described in Section V.

Ventilation: Normal shop ventilation.

Protective Gloves: None required.

Eye Protection: None required.

Other Protective Equipment: None required.

MATERIAL SAFETY DATA SHEET

I. MATERIAL IDENTIFICATION

Name: Dectol R.O. Oils 32, 46, 68, 100
Conoco Product Code: 7302/7304/7306/7308
Synonyms: Petroleum Lubricating and Hydraulic Oil
Chemical Family: Petroleum Hydrocarbon Oil
Manufacturer: Conoco Inc.
Address: P.O. Box 1267, Ponca City, OK 74603

CAS Registry No.: Mixture
Transportation Emergency No.:
(800) 424-9300 (Chemtrec)
Product Information No.:
(405) 767-6000

II. HAZARDOUS INGREDIENTS — HAZARD DATA

Hazard Determination:
Health Effect Properties: None. — Not applicable.

Physical Effect Properties:
Product/Mixture: None. — Not applicable.

III. PHYSICAL DATA

Appearance and Odor: Light brown liquid; mild petroleum hydrocarbon odor.

Boiling Point (Deg.F)	650-1200	Specific Gravity (H_2O=1)	0.87
Vapor Pressure (mmHg)	Nil	% Volatile (by volume)	Nil
Vapor Density (Air=1)	Not applicable	Evaporation Rate (=1)	Nil
Solubility in Water	Insoluble		

IV. REACTIVITY DATA — Stable: X — Unstable:

Hazardous Decomposition Products: Normal combustion forms carbon dioxide. Incomplete combustion may produce carbon monoxide.

Conditions To Avoid: Strong oxidizing materials, heat, flame.

Hazardous Polymerization: Will not occur.

CAS Registry No.: Mixture

V. FIRE AND EXPLOSION HAZARD DATA

Flash Point (Method used): 290F (PMCC) Autoignition Temperature: 680F
Handle and store in accordance with NFPA procedure for Class III B Combustible Liquid.

Extinguishing Media: Use water spray, dry chemical, foam, or carbon dioxide.

Special Fire Fighting Procedures: Water or foam may cause frothing. Use water to keep fire-exposed containers cool. Water spray may be used to flush spills away from exposures.

Unusual Fire and Explosion Hazards: Products of combustion may contain carbon monoxide, carbon dioxide, and other toxic materials. Do not enter enclosed or confined space without proper protective equipment including respiratory protection.

National Fire Protection Agency (NFPA) CLASSIFICATION	HAZARD RATING
Health 0 Fire 1 Reactivity 0	Least - 0 Slight - 1 Moderate - 2 High - 3 Extreme - 4

VI. TRANSPORTATION AND STORAGE

DOT HAZARD CLASS: Not Applicable

Precautions To Be Taken In Handling And Storing: Product is Class III B Combustible Liquid per NFPA Code No. 30-1984. Store and handle accordingly.

Shipping Paper Description: Not D.O.T. Regulated.

Placard: Not D.O.T. Regulated.

Label: Not D.O.T. Regulated.

VII. HEALTH HAZARD INFORMATION

PEL Not Established TLV Not Established
Ceiling Value Not Established AEL Not Established

Primary Route of Exposure/Entry: Skin.

Signs and Symptoms of Exposure/Medical Conditions Aggravated By Exposure:
No adverse health effect has been identified specifically for this product. Health effect information from animal and human studies has been included on related materials, even though health experts may disagree as to the significance of this data.

Mouse skin painting studies have shown that highly solvent-refined petroleum distillates having a boiling point below 700F, and which are similar to ingredients in this product, have not caused skin tumors. Studies of petroleum workers have not shown a significant increased incidence of skin tumors.

VII. HEALTH HAZARD INFORMATION (continued)

The product may cause irritation to eyes, lungs, or skin after prolonged or repeated exposure.

Listed as Carcinogen or Potential Carcinogen by: NTP No IARC No OSHA No

VIII. EMERGENCY AND FIRST AID PROCEDURES

Eyes: Immediately wash with fresh water for at least 15 minutes and get medical attention.

Skin: Remove contaminated clothing as soon as possible. Wash exposed skin thoroughly with soap and water. If irritation persists, consult a physician.

Launder contaminated clothing before reuse. Extremely contaminated leather shoes should be discarded.

If exposed to hot oil, immediately cool with cold water. Do not attempt to remove oil but continue to cool exposed areas with cold packs and seek medical assistance immediately.

Ingestion: If this material is swallowed, do not induce vomiting. If vomiting begins, lower victim's head in an effort to prevent vomitus from entering lungs. Immediately consult a physician. Do not attempt to give liquid to an unconscious person.

Inhalation: If overexposure occurs, remove individual to fresh air. If breathing stops, administer artificial respiration.

Note to Physicians: Gastric lavage by qualified medical personnel may be considered, depending on quantity of material ingested.

IX. SPILL, LEAK AND DISPOSAL PROCEDURES

RCRA HAZARDOUS WASTE: Yes_____ No X

In Case Of Spill Or Leak: Contain spill immediately in smallest area possible. Recover as much of the product itself as possible by such methods as vacuuming, followed by soaking up residual fluids by use of absorbent materials. Remove contaminated items including soils and place in proper container for disposal. Avoid washing, draining or directing material to storm or sanitary sewers.

Waste Disposal Method: Recycle as much of the recoverable product as possible. Dispose of nonrecyclable material by such methods as controlled incineration, complying with federal, state and local regulations.

CAS Registry No.: Mixture

X. PRECAUTIONARY MEASURES

Respiratory Protection: None required except under unusual circumstances such as described in Section V.

Ventilation: Normal shop ventilation.

Protective Gloves: Impervious.

Eye Protection: Safety glasses with side shields.

Other Protective Equipment: Coveralls.

MATERIAL SAFETY DATA SHEET

I. MATERIAL IDENTIFICATION

Name: Super-Sta Grease (All Grades)
Conoco Product Code: 9029/9030
Synonyms: Petroleum Grease
Chemical Family: Petroleum Hydrocarbon
Manufacturer: Conoco Inc.
Address: P.O. Box 1267, Ponca City, OK 74603

CAS Registry No.: Mixture
Transportation Emergency No.:
(800) 424-9300 (Chemtrec)
Product Information No.:
(405) 767-6000

II. HAZARDOUS INGREDIENTS — HAZARD DATA

Hazard Determination:
Health Effect Properties: None. — Not applicable.

Physical Effect Properties:
Product/Mixture: None. — Not applicable.

III. PHYSICAL DATA

Appearance and Odor: Green brown solid; Mild petroleum hydrocarbon odor.

Boiling Point (Deg.F)	750-1200	Specific Gravity (H_2O=1)	0.89
Vapor Pressure (mmHg)	Nil	% Volatile (by volume)	Nil
Vapor Density (Air=1)	Not Applicable	Evaporation Rate (=1)	Nil
Solubility in Water	Insoluble		

IV. REACTIVITY DATA — Stable: X Unstable:

Hazardous Decomposition Products: Normal combustion forms carbon dioxide; incomplete combustion may produce carbon monoxide.

Conditions To Avoid: Strong oxidizing materials, heat, flame.

Hazardous Polymerization: Will not occur.

August 9, 1985

CAS Registry No.: Mixture

V. FIRE AND EXPLOSION HAZARD DATA

Flash Point (Method used): 300F (PMCC) Autoignition Temperature: 700F
Handle and store in accordance with NFPA procedure for Class III B Combustible Liquid.

Extinguishing Media: Use water spray, dry chemical, foam, or carbon dioxide.

Special Fire Fighting Procedures: Water or foam may cause frothing. Use water to keep fire-exposed containers cool. Water spray may be used to flush spills away from exposures.

Unusual Fire and Explosion Hazards: Products of combustion may contain carbon monoxide, carbon dioxide, and other toxic materials. Do not enter enclosed or confined space without proper protective equipment including respiratory protection.

National Fire Protection Agency (NFPA) CLASSIFICATION	HAZARD RATING
Health 0 Fire 1 Reactivity 0	Least - 0 Slight - 1 Moderate - 2 High - 3 Extreme - 4

VI. TRANSPORTATION AND STORAGE

DOT HAZARD CLASS: Not Applicable

Precautions To Be Taken In Handling And Storing: Product is Class III B Combustible Liquid per NFPA Code No. 30-1984. Store and handle accordingly.

Shipping Paper Description: Not D.O.T. Regulated.

Placard: Not D.O.T. Regulated.

Label: Not D.O.T. Regulated.

VII. HEALTH HAZARD INFORMATION

PEL Not Established TLV Not Established
Ceiling Value Not Established AEL Not Established

Primary Route(s) of Exposure/Entry: Skin.

Signs and Symptoms of Exposure/Medical Conditions Aggravated By Exposure:
No adverse health effect has been identified specifically for this product. Health effect information from animal and human studies has been included on related materials, even though health experts may disagree as to the significance of this data.

Mouse skin painting studies have shown that highly solvent-refined petroleum distillates having a boiling point below 700F, and which are similar to ingredients in this product, have not caused skin tumors. Studies of petroleum workers have not shown a significant increased incidence of skin tumors.

CAS Registry No.: Mixture

VII. HEALTH HAZARD INFORMATION (continued)

The product may cause irritation to eyes, lungs, or skin after prolonged or repeated exposure.

Listed as Carcinogen or Potential Carcinogen by: NTP No IARC No OSHA No

VIII. EMERGENCY AND FIRST AID PROCEDURES

Eyes: Immediately wash with fresh water for at least 15 minutes and get medical attention.

Skin: Wash exposed skin thoroughly with soap and water. If irritation persists, consult a physician.

Inhalation: If overexposure occurs, remove individual to fresh air. If breathing stops, administer artificial respiration.

Ingestion: If this material is swallowed, do not induce vomiting. If vomiting begins, lower victim's head in an effort to prevent vomitus from entering lungs. Immediately consult a physician. Do not attempt to give liquid to an unconscious person.

Note to Physicians: Gastric lavage by qualified medical personnel may be considered, depending on quantity of material ingested.

IX. SPILL, LEAK AND DISPOSAL PROCEDURES

RCRA HAZARDOUS WASTE: Yes_____ No X

In Case Of Spill Or Leak: Contain spill immediately in smallest area possible. Recover as much of the product itself as possible by shovel or mechanical means. Nonrecyclable product and contaminated soils and other materials should be picked up and placed in proper containers for storage and ultimate disposal. Avoid washing, draining or directing material to storm or sanitary sewers.

Waste Disposal Method: Recycle as much of the recoverable product as possible. Dispose of nonrecyclable material by such methods as controlled incineration, complying with federal, state and local regulations.

CAS Registry No.: Mixture

X. PRECAUTIONARY MEASURES

Respiratory Protection: None required except under unusual circumstances such as described in Section V.

Ventilation: Normal shop ventilation.

Protective Gloves: None required.

Eye Protection: None required.

Other Protective Equipment: None required.

31292

MATERIAL SAFETY DATA SHEET D1268

UNOCAL 76

Product Name: UNOCAL MULTIPURPOSE ATF DEXRON (R) II
PRODUCT CODE NO: D3950 ISSUE DATE: 7/10/85

MANUFACTURER:

UNOCAL REFINING & MARKETING DIVISION
UNION OIL COMPANY OF CALIFORNIA
1201 W. 5TH STREET
LOS ANGELES, CALIFORNIA 90017

CONTACT FOR FURTHER INFORMATION:
MSDS COORDINATOR (213) 977-7588

Transportation Emergencies:
Call CHEMTREC
(800) 424-9300 Cont. U.S.
(202) 483-7616 (Collect)
from Alaska & Hawaii
Health Emergencies:
CALL LOS ANGELES POISON
INFORMATION CENTER (24 hrs.)
(213) 664-2121

PRODUCT IDENTIFICATION

PRODUCT NAME: UNOCAL MULTIPURPOSE ATF DEXRON (R) II

SYNONYMS: UNION MULTIPURPOSE ATF DEXRON (R) II

GENERIC NAME: TRANSMISSION OILS

CHEMICAL FAMILY: PETROLEUM HYDROCARBON

DOT PROPER SHIPPING NAME: NOT APPLICABLE

ID NUMBER: NONE

SECTION I - INGREDIENTS	TLV	UNITS	AGENCY	TYPE
OIL MIST, IF GENERATED	5.00	MG/M3	OSHA	FULL TERM TWA

THE IDENTITIES OF INGREDIENTS THAT ARE TRADE SECRETS ARE EXCLUDED FROM THIS LIST.

SECTION II - EMERGENCY AND FIRST AID PROCEDURES ***EMERGENCY***
Have physician call LOS ANGELES POISON INFORMATION CENTER (24 hrs.) (213) 664-2121

EYE CONTACT:

FOR DIRECT CONTACT, FLUSH THE AFFECTED EYE(S) WITH CLEAN WATER. IF IRRITATION OR REDNESS DEVELOPS, SEEK MEDICAL ATTENTION.

SKIN CONTACT:

DO NOT USE GASOLINES, THINNERS OR SOLVENTS TO REMOVE PRODUCT FROM SKIN. WIPE MATERIAL FROM SKIN AND REMOVE CONTAMINATED CLOTHING. CLEANSE AFFECTED AREA(S) THOROUGHLY BY WASHING WITH SOAP AND WATER AND, IF NECESSARY, A WATERLESS SKIN CLEANSER. IF IRRITATION OR REDNESS DEVELOPS AND PERSISTS, SEEK MEDICAL ATTENTION.

INHALATION (BREATHING):

IF IRRITATION OF NOSE OR THROAT DEVELOPS, MOVE AWAY FROM SOURCE OF EXPOSURE AND INTO FRESH AIR. IF IRRITATION PERSISTS, SEEK MEDICAL ATTENTION. IF VICTIM IS NOT BREATHING OR IF BREATHING DIFFICULTIES DEVELOP, ARTIFICIAL RESPIRATION OR OXYGEN SHOULD BE ADMINISTERED BY QUALIFIED PERSONNEL. SEEK IMMEDIATE MEDICAL ATTENTION.

INGESTION (SWALLOWING):

IF VICTIM IS CONSCIOUS AND ALERT, GIVE 2 TO 3 CUPS OF MILK OR WATER TO DRINK. SEEK MEDICAL ATTENTION. TO PHYSICIAN: EMESIS OR LAVAGE IS NOT RECOMMENDED FOR INGESTIONS OF MINUTE QUANTITIES OR TASTES OF MOST HYDROCARBONS. MEDICAL OPINION IS DIVIDED FOR LARGER INGESTIONS. EMESIS OR LAVAGE HAS BEEN RECOMMENDED FOR THOSE PETROLEUM PRODUCTS WHICH HAVE A HIGH ORAL TOXICITY. GASTRIC LAVAGE WITH A CUFFED ENDOTRACHEAL TUBE IS RECOMMENDED BY SOME PHYSICIANS TO PREVENT ASPIRATION.

SECTION III - POTENTIAL ADVERSE HEALTH EFFECTS

EYE CONTACT:

THIS MATERIAL MAY CAUSE EYE IRRITATION. DIRECT CONTACT MAY CAUSE BURNING, TEARING AND REDNESS.

SKIN CONTACT:

THIS MATERIAL MAY CAUSE SKIN IRRITATION. PROLONGED OR REPEATED CONTACT MAY CAUSE REDNESS, BURNING AND DERMATITIS.

INHALATION (BREATHING):

EXPOSURE TO MISTS, OR PROLONGED OR REPEATED EXPOSURE TO FUMES OR VAPORS THAT MAY BE GENERATED WHEN THIS MATERIAL IS HEATED, MAY CAUSE IRRITATION OF NOSE AND THROAT.

INGESTION (SWALLOWING):

ACCIDENTAL INGESTION OF THIS MATERIAL MAY CAUSE IRRITATION OF THE DIGESTIVE TRACT.

SECTION IV - SPECIAL PROTECTION INFORMATION

VENTILATION:

IF CURRENT VENTILATION PRACTICES ARE NOT ADEQUATE IN MAINTAINING AIRBORNE CONCENTRATIONS BELOW THE ESTABLISHED EXPOSURE LIMITS (SEE SECTION I), ADDITIONAL VENTILATION OR EXHAUST SYSTEMS MAY BE REQUIRED.

RESPIRATORY PROTECTION:

IF AIRBORNE CONCENTRATIONS EXCEED RECOMMENDED EXPOSURE LIMITS, A SUITABLE FILTER-TYPE RESPIRATOR SHOULD BE WORN. (SEE SECTION I.)

PROTECTIVE GLOVES:

THE USE OF GLOVES IMPERMEABLE TO THE SPECIFIC MATERIAL HANDLED IS ADVISED TO PREVENT SKIN CONTACT AND POSSIBLE IRRITATION.

EYE PROTECTION:

APPROVED EYE PROTECTION TO SAFEGUARD AGAINST POTENTIAL EYE CONTACT, IRRITATION OR INJURY IS RECOMMENDED.

OTHER PROTECTIVE EQUIPMENT:

IT IS SUGGESTED THAT A SOURCE OF CLEAN WATER BE AVAILABLE IN WORK AREA FOR FLUSHING EYES AND SKIN. BARRIER CREAMS THAT ARE SPECIFIC FOR OIL-BASED MATERIALS ARE RECOMMENDED WHEN GLOVES ARE IMPRACTICAL.

SECTION V - REACTIVITY DATA

STABILITY:

STABLE

INCOMPATIBILITY (MATERIALS TO AVOID):

AVOID CONTACT WITH STRONG OXIDIZING AGENTS. EXTENDED EXPOSURE TO HIGH TEMPERATURES MAY CAUSE DECOMPOSITION.

HAZARDOUS DECOMPOSITION PRODUCTS:

THERMAL DECOMPOSITION IN THE PRESENCE OF AIR MAY YIELD MAJOR AMOUNTS OF OXIDES OF CARBON AND MINOR AMOUNTS OF OXIDES OF SULFUR AND NITROGEN.

SECTION V - REACTIVITY DATA

HAZARDOUS POLYMERIZATION:

WILL NOT OCCUR.

SECTION VI - SPILL OR LEAK PROCEDURES

HIGHWAY OR RAILWAY SPILLS
Call CHEMTREC (800) 424-9300 Cont. U.S.
(Collect) (202) 483-7616 from Alaska & Hawaii

PRECAUTIONS IN CASE OF RELEASE OR SPILL:

COLLECT LEAKING LIQUID IN SEALABLE CONTAINERS. ABSORB SPILLED LIQUID IN SAND OR INERT ABSORBANT. CONTACT FIRE AUTHORITIES AND APPROPRIATE STATE/LOCAL AGENCIES. IF SPILL OF ANY AMOUNT IS MADE INTO OR UPON U.S. NAVIGABLE WATERS, THE CONTIGUOUS ZONE, OR ADJOINING SHORELINES, NOTIFY COAST GUARD NATIONAL RESPONSE CENTER (PHONE NUMBER 800-424-8802).

WASTE DISPOSAL METHOD:

DISPOSE OF PRODUCT IN ACCORDANCE WITH LOCAL, COUNTY, STATE, AND FEDERAL REGULATIONS.

SECTION VII - STORAGE AND SPECIAL PRECAUTIONS

HANDLING AND STORAGE PRECAUTIONS:

STORE IN A COOL, DRY LOCATION. KEEP AWAY FROM INCOMPATIBLE MATERIALS (SEE SECTION V). AVOID GENERATING OIL MISTS WHILE HANDLING. AVOID PROLONGED OR REPEATED SKIN CONTACT. WASH THOROUGHLY AFTER HANDLING. DO NOT WEAR OIL-SOAKED CLOTHING OR SHOES.

SECTION VIII - FIRE AND EXPLOSION HAZARD DATA

		HAZARD RANKING	DOT FLAMMABILITY CLASSIFICATION	FLASH POINT
NFPA HAZARD CLASS	HEALTH HAZARD: 0 FLAMMABILITY: 1 REACTIVITY: 0 OTHER:	0 = LEAST 1 = SLIGHT 2 = MODERATE 3 = HIGH 4 = EXTREME	NOT REGULATED	160 F 320 C

EXTINGUISHING MEDIA:

EXTINGUISH WITH DRY CHEMICAL, CO2, WATER SPRAY, FOAM, SAND OR EARTH. WATER AND FOAM MAY CAUSE FROTHING.

FIRE & EXPLOSION HAZARDS:

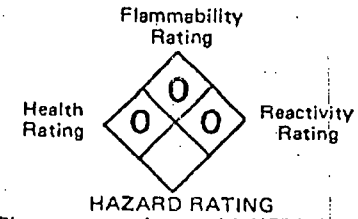
THIS MATERIAL WILL BURN, BUT WILL NOT IGNITE READILY.

FIRE FIGHTING PROCEDURES:

WATER SPRAY MAY BE USEFUL IN MINIMIZING VAPORS AND COOLING CONTAINERS EXPOSED TO HEAT AND FLAME. AVOID SPREADING BURNING LIQUID WITH WATER USED FOR COOLING PURPOSES. MOVE UNDAMAGED CONTAINERS FROM FIRE AREA IF YOU CAN DO SO WITHOUT RISK.

NORTON

MATERIAL SAFETY DATA SHEET



HAZARD RATING
Please rate consistent with NFPA Code

SECTION I NAME AND PRODUCT

MANUFACTURER'S NAME	CONTACT
NORTON COMPANY	THOMAS Z. RICHARDS
ADDRESS (STREET, CITY, STATE AND ZIP CODE)	EMERGENCY TELEPHONE NO.
1 NEW BOND STREET, WORCESTER, MA 01606-2698	617-795-2690
TRADE NAME, COMMON NAME OR SPECIFICATION	APPROVED BY
VITRIFIED BONDED – ABRASIVE PRODUCTS	DATE 6-20-86

CHEMICAL FAMILY OR PRODUCT TYPE ANY GRADE

SECTION II COMPOSITION PER 29CFR 1910.1200 (G) (4)

CHEMICAL NAME	MAX %	COMMON NAME	REG* (Y/N)	CAS #	OSHA PERMISSIVE EXPOSURE LIMIT	ACGIH TLV	CARCINOGEN (Y/N)
Alpha Alumina	96	Alundum	Y	1344-28-1	15mg/m³ (Total Dust)	10mg/m³ (Total Dust)	N
Silicon Carbide	96	Crystolon	Y	409-21-2	15mg/m³ (Total Dust)	10mg/m³ (Total Dust)	N
No. 12 Treatment	23	Paraffin Wax	N	**NAIF	See Section VI		N
No. 5 & 6 Treatment	16	Rosin Wax Mixture	N	**NAIF	See Section VI		N
fur Treatment	41	Sulfur	Y	7704-34-9	**NAIF	**NAIF	N

Note: Wheel Treatments range from 9 to 43% concentration based on wheel weight.

*Materials are regulated by OSHA 29 CFR 1910.1200, Hazard Communication Standard, and/or the Massachusetts General Law Chapter 111F, Right To Know Regulations.

SECTION III PHYSICAL AND CHEMICAL DATA

BOILING POINT **NAIF	MELTING POINT **NAIF	SPECIFIC GRAVITY 2-4
VAPOR PRESSURE **NAIF	PERCENT VOLATILE BY VOL **NAIF	VAPOR DENSITY **NAIF
EVAPORATION RATE **NAIF	SOLUBILITY IN WATER Slight	SOLUBILITY IN ALCOHOL **NAIF
SOLUBILITY IN OTHER SOLVENT **NAIF	APPEARANCE AND ODOR SOLID PRODUCT: MAY GIVE OFF ODOR IN USE.	

SECTION IV SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE – NONE.

OTHER PRECAUTIONS:

**NAIF.

SECTION V CORROSIVITY AND REACTIVITY DATA

STABILITY UNSTABLE ☐ STABLE ☒ POLYMERIZATION MAY OCCUR ☐ WILL NOT OCCUR ☒

INCOMPATABILITY (MATERIALS TO AVOID)

Avoid acids of all types with a PH < = 4.0

OMPOSITION PRODUCTS

use, dusts are generated. In most cases, the airborne material removed from the workpiece will be significantly greater than the grinding wheel components. Coolants may produce other decomposition products.

CONDITIONS TO BE AVOIDED

**NAIF

NAIF = NO APPLICABLE INFORMATION FOUND * N/A = NOT APPLICABLE

SECTION VI HEALTH, FIRST AID AND MEDICAL DATA

PRIMARY ROUTE(S) OF ENTRY	ACUTE AND CHRONIC HEALTH EFFECTS AND EFFECTS OF OVEREXPOSURE	FIRST AID AND MEDICAL INFORMATION
INHALATION (DURING GRINDING)	ACUTE: COUGHING, SHORTNESS OF BREATH. CHRONIC: MAY AFFECT BREATHING CAPACITY.	REMOVE TO FRESH AIR. ARTIFICIAL RESPIRATION AS NEEDED. OBTAIN MEDICAL ASSISTANCE.
INGESTION (DURING GRINDING)	NO KNOWN ADVERSE EFFECTS, BUT INGESTION NOT RECOMMENDED.	OBTAIN MEDICAL ASSISTANCE.
SKIN CONTACT & ABSORPTION (DURING GRINDING)	SOME MAY EXPERIENCE SKIN IRRITATION FROM DUST.	WASH AFFECTED AREAS WITH SOAP AND WATER. OBTAIN MEDICAL ASSISTANCE.
EYE (DURING GRINDING)	DUSTS MAY IRRITATE EYES.	WASH WITH LARGE AMOUNTS OF WATER. OBTAIN FIRST AID AND MEDICAL ASSISTANCE, IF NEEDED.
OTHER POTENTIAL HEALTH RISKS (DURING GRINDING)	GRINDING MAY CREATE ELEVATED SOUND LEVELS WHICH MAY AFFECT HEARING.	OBTAIN MEDICAL ASSISTANCE.

SECTION VII STORAGE, HANDLING AND USE PROCEDURES

NORMAL STORAGE AND HANDLING
SEE ANSI STANDARD B7.1.

NORMAL USE
HANDLE WITH ADEQUATE VENTILATION. SEE OSHA 29CFR1910.94 (VENTILATION) and 29CFR1910.1000 (AIR CONTAMINATES)

STEPS TO BE TAKEN IN CASE OF LEAKS OR SPILLS.
NORMAL CLEANUP PROCEDURES.

WASTE DISPOSAL METHOD
STANDARD LANDFILL METHODS CONSISTENT WITH APPLICABLE FEDERAL, STATE AND LOCAL LAWS. PRODUCTS WITH LISTED FLOURIDES MAY HAVE SLIGHTLY SOLUBLE FLOURIDE SWARF.

SECTION VIII PERSONAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (SPECIFY TYPE) AS NEEDED. FOR APPROVED DUST RESPIRATORS SEE OSHA 29CFR1910.134.

VENTILATION	LOCAL RECOMMENDED	
	MECHANICAL (GENERAL)	RECOMMENDED
	OTHER	**NAIF

PROTECTIVE GLOVES	AS DESIRED BY USER
EYE PROTECTION	RECOMMENDED SEE OSHA 29CFR1910.133
OTHER EQUIPMENT	AS NEEDED HEARING PROTECTION SEE OSHA 29CFR1910.215 (HEARING PROTECTION)

MEASURES TO BE TAKEN DURING REPAIR AND MAINTENANCE OF CONTAMINATED EQUIPMENT THAT HAS BEEN IN CONTACT WITH THIS MATERIAL.
SEE SECTIONS VII & VIII

SECTION IX FIRE AND EXPLOSION HAZARD DATA

FLASH POINT **NAIF	(METHOD USED ***N/A	FLAMMABLE LIMITS LEL N/A UEL ***N/
EXTINGUISHING MEDIA	USE WATER	
SPECIAL FIRE FIGHTING PROCEDURES	NONE	
EXPLOSION POTENTIAL **NAIF		

FOR COMPANY USE

U.S. DEPARTMENT OF LABOR
Occupational Safety and Health Administration

Form Approved
OMB No. 44-R1387

MATERIAL SAFETY DATA SHEET

Required under USDL Safety and Health Regulations for Ship Repairing, Shipbuilding, and Shipbreaking (29 CFR 1915, 1916, 1917)

SECTION I

MANUFACTURER'S NAME	EMERGENCY TELEPHONE NO.
Prestex Products Co.	646-4784

ADDRESS (Number, Street, City, State, and ZIP Code): 1414 Carroll Ave. St. Paul, Minn. 55104

CHEMICAL NAME AND SYNONYMS	TRADE NAME AND SYNONYMS
None	P-X Glass cleaner

CHEMICAL FAMILY	FORMULA
None	Alcohol, Water, Ammonia

SECTION II - HAZARDOUS INGREDIENTS

PAINTS, PRESERVATIVES, & SOLVENTS	%	TLV (Units)	ALLOYS AND METALLIC COATINGS	%	TLV (Units)
PIGMENTS			BASE METAL		
CATALYST			ALLOYS		
VEHICLE			METALLIC COATINGS		
SOLVENTS Alcohol			FILLER METAL PLUS COATING OR CORE FLUX		
ADDITIVES			OTHERS		
OTHERS Ammonia					

HAZARDOUS MIXTURES OF OTHER LIQUIDS, SOLIDS, OR GASES	%	TLV (Units)

SECTION III - PHYSICAL DATA

BOILING POINT (°F.)	175-212	SPECIFIC GRAVITY (H_2O=1)	.866
VAPOR PRESSURE (mm Hg.)	68 mm	PERCENT, VOLATILE BY VOLUME (%)	60%
VAPOR DENSITY (AIR=1)	4.24	EVAPORATION RATE (_____ =1)	
SOLUBILITY IN WATER	complete		

APPEARANCE AND ODOR: colorless, pungent

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (Method used)	FLAMMABLE LIMITS	Lel	Uel
78 F Closed cup			

EXTINGUISHING MEDIA: Dry Chemical or Alcohol type foam

SPECIAL FIRE FIGHTING PROCEDURES: Use water spray to cool fire exposed surfaces and to protect fire fighting personnel

UNUSUAL FIRE AND EXPLOSION HAZARDS: Respiratory protection required for fire fighting personnel

(Continued on reverse side)

SECTION V - HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE
100 ppm (includes only active portion not the water)

EFFECTS OF OVEREXPOSURE
Vapor may irritate eyes nose and throat, liquid will damage eye tissue. prolonged and/or repeated skin contact may be irritating.

EMERGENCY AND FIRST AID PROCEDURES
If overcome by vapors, remove to fresh air and if breathing stopped, give artificial respiration. Keep individual calm, call a physician.

If eye contact occurs flush thoroughly with water.

SECTION VI - REACTIVITY DATA

STABILITY	UNSTABLE		CONDITIONS TO AVOID
	STABLE	X	Not Applicable

INCOMPATABILITY *(Materials to avoid)*
With certain chemicals such as Oxides, Acids and Halogens

HAZARDOUS DECOMPOSITION PRODUCTS
None

HAZARDOUS POLYMERIZATION	MAY OCCUR		CONDITIONS TO AVOID
	WILL NOT OCCUR	X	Not applicable

SECTION VII - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED
Dilute with copius quantities of water - ventilate, avoid electrical sparks and flames. wear complete protective clothing when near.

WASTE DISPOSAL METHOD
Dilute with large quantities of water then follow local regulations for waste disposal.

SECTION VIII - SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION *(Specify type)*
Use approved respiratory protection if working in confined area.

VENTILATION	LOCAL EXHAUST: Not necessary in large areas	SPECIAL
	MECHANICAL *(General)*: spark proof	OTHER: No open flames

PROTECTIVE GLOVES: usually not needed	EYE PROTECTION: usually not needed

OTHER PROTECTIVE EQUIPMENT
usually not needed

SECTION IX - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING
Keep container closed when not in use, do not store near heat or flame, or strong oxidants

OTHER PRECAUTIONS
None

PROPANE WITH ODORANT — Issued 8/1/85

Flammable Gas

DOT I.D. No.1978

UN 1075

MATERIAL SAFETY DATA SHEET

UPG, INC., 2223 Dodge Street, Omaha, Nebraska 68102

SECTION I

UPG/NGL a Division of UPG, Inc.	EMERGENCY TELEPHONE NO. 402/633-5100
ADDRESS (Number, Street, City, State, and ZIP Code) 2223 Dodge Street, Omaha, Nebraska 68102	
CHEMICAL NAME AND SYNONYMS Liquefied Petroleum Gas, Propane	TRADE NAME AND SYNONYMS LP-gas, LPG
CHEMICAL FAMILY Hydrocarbon	FORMULA C_3H_8

SECTION II - HAZARDOUS INGREDIENTS

PAINTS, PRESERVATIVES, & SOLVENTS	%	TLV (Units)	ALLOYS AND METALLIC COATINGS	%	TLV (Units)
PIGMENTS N/A			BASE METAL N/A		
CATALYST N/A			ALLOYS N/A		
VEHICLE N/A			METALLIC COATINGS N/A		
SOLVENTS N/A			FILLER METAL PLUS COATING OR CORE FLUX N/A		
ADDITIVES N/A			OTHERS		
OTHERS					

HAZARDOUS MIXTURES OF OTHER LIQUIDS, SOLIDS, OR GASES	%	TLV (Units)
Propane (as specified by ASTM D-2163-77) with small amounts of ethane,		
propylene, iso butane and normal butane		
Ethyl-mercaptan (added as malodorant) approximately 1 lb. per 10,000		
gallons of liquid propane (ANSI/NFPA #58-1982)		

SECTION III - PHYSICAL DATA (Approximate or typical values)

BOILING POINT (°F.) @ 14.7 psia	-44	SPECIFIC GRAVITY (H_2O=1)	0.504
VAPOR PRESSURE psig, @ 100°F	208 maximum	PERCENT, VOLATILE BY VOLUME (%)	100%
VAPOR DENSITY (AIR=1) @ 60°F	1.52	EVAPORATION RATE (_____=1) Gas at normal	None
SOLUBILITY IN WATER (slightly)	<0.1%	ambient conditions.	
APPEARANCE AND ODOR Colorless gas; a malordorant added for detection			

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (Method used)	FLAMMABLE LIMITS	Lel	Uel
		2.15	9.60

EXTINGUISHING MEDIA
Water spray; Class A-B-C or Class BC fire extinguishers

SPECIAL FIRE FIGHTING PROCEDURES
Stop flow of gas; Use water to keep fire exposed containers and piping cool.

Use water spray to disperse unignited gas. Evacuate area.

UNUSUAL FIRE AND EXPLOSION HAZARDS
If ignition has occurred, and no water is available, tank or piping metal may

fail from overheating. Approach containers from sides, not from ends.

(Continued on reverse side)

SECTION V - HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE
1,000 ppm (840 mg/M^3) per 8 hour day; IDLH 20,000 ppm.

EFFECTS OF OVEREXPOSURE
Simple asphyxiant. High concentrations may lead to symptoms ranging from dizziness to respiratory arrest. Vapor may cause moderate eye irritation.

EMERGENCY AND FIRST AID PROCEDURES
Eye Contact - If liquid gets into eyes - contact a physician immediately. Skin Contact - Liquid contact with skin should be treated as frostbite. Inhalation - If overcome by vapor, remove victim to fresh air, apply artificial respiration if breathing has stopped.

SECTION VI - REACTIVITY DATA

STABILITY			CONDITIONS TO AVOID
	UNSTABLE		
	STABLE	X	

INCOMPATABILITY *(Materials to avoid)*
Strong oxidizers

HAZARDOUS DECOMPOSITION PRODUCTS
Carbon monoxide from incomplete combustion

HAZARDOUS POLYMERIZATION			CONDITIONS TO AVOID
	MAY OCCUR		
	WILL NOT OCCUR	X	

SECTION VII - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED
Shut off gas supply. Shut off sources of ignition. Ventilate the area. Disperse propane with water spray. Contact between skin and this gas in liquid form can cause freezing of tissue.

WASTE DISPOSAL METHOD
Controlled burning. Contact UPG, Inc.

SECTION VIII - SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION *(Specify type)* Self Contained Breathing Apparatus or other fresh air source in confined space, if needed.

VENTILATION		
	LOCAL EXHAUST: Exhaust approved for flammable gases	SPECIAL: Explosion Proof
	MECHANICAL *(General)*	OTHER: Keep sources of ignition away while ventilating.

PROTECTIVE GLOVES	EYE PROTECTION
Resistant to liquid propane	Safety glasses or face shield recommended

OTHER PROTECTIVE EQUIPMENT
Use a combustible gas meter for detection

SECTION IX - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING
Keep container away from heat sources. Containers should be stored with the relief valve in the vapor space. Containers should not be dropped. Protect container and valves from damage.

OTHER PRECAUTIONS
Install protective caps on D.O.T. cylinders for being transported. "Flammable Gas" label required on D.O.T. cylinders.

For More Information Contact:
UPG, Inc.
2223 Dodge Street
Omaha, Nebraska 68102
402/633-6384

Approved by: Engineering & Tech Services

Safety & Industrial Hygiene

9/80

CRACK SEALANT
REC 7/23/86

MATERIAL SAFETY DATA SHEET

3M
3M CENTER
ST. PAUL, MINNESOTA
55144-1000
612/733-1110 - Operator 55 Duns No: 00-617-2082

DIVISION: ADHESIVES, COATINGS AND SEALERS
TRADE NAME: SCOTCH-GRIP(R) Industrial Mastic 4289 NF
3M I.D. NUMBER: 62-4289-6331-8 62-4289-6332-6 62-4289-8530-3
62-4289-9530-2

ISSUED: OCTOBER 1, 1985
SUPERSEDES: JUNE 1, 1983
DOCUMENT: 1029644

1. INGREDIENTS

INGREDIENTS	C.A.S. NO.	PERCENT	EXPOSURE LIMITS	
synthetic rubber	N/A		N/D	5
resin blend	N/A		N/D	5
anti-foaming agent	N/A		N/D	5
protein protective colloid	N/A		N/D	5
sodium orthophenylphenate	N/A		N/D	5
clay	N/A		N/D	5
TOTAL OF THE ABOVE	N/A	45.0	N/D	5
ethylene glycol	107-21-1	4.0	50 ppm (vapo	1
xylene	1330-20-7	2.0	100 ppm	1
potassium hydroxide	N/A	1.0	2 mg/m3	1
steam refined asphalt	8052-42-4	22.0	5 mg/m3 pet. fumes	1

SOURCE OF EXPOSURE LIMIT DATA:
1. ACGIH Threshold Limit Values
2. Federal OSHA Permissible Exposure Limit
3. 3M Exposure Guidelines
4. Chemical Manufacturer Recommended Guidelines
5. None Established

ABBREVIATIONS:
N/D - Not Determined
N/A - Not Applicable

2. PHYSICAL DATA

BOILING POINT:	212F (water)
VAPOR PRESSURE:	17 mm
VAPOR DENSITY (Air=1):	>1
EVAPORATION RATE (Ether=1):	Slower
APPEARANCE AND ODOR:	Black, thixotropic liquid
SOLUBILITY IN WATER:	Dispersible
SP. GRAVITY (Water=1):	1.3
PERCENT VOLATILE:	31
VISCOSITY:	200,000 CPS

pH: 10-11

3. FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (Closed Cup): NONE
FLAMMABLE LIMITS - LEL: N/A UEL: N/A

EXTINGUISHING MEDIA:
Water
SPECIAL FIRE FIGHTING PROCEDURES:
Fire fighters should be equipped with self-contained breathing apparatus when fighting fires involving this material.
UNUSUAL FIRE AND EXPLOSION HAZARDS:
Overheated, closed containers adjacent to fire could explode due to pressure buildup.

4. REACTIVITY DATA

STABILITY: STABLE

INCOMPATIBILITY - MATERIALS TO AVOID:
N/A
HAZARDOUS POLYMERIZATION: MAY NOT OCCUR

HAZARDOUS DECOMPOSITION PRODUCTS:
CO, CO2 and smoke particles when subjected to excessive heat or flame.

5. ENVIRONMENTAL INFORMATION

SPILL RESPONSE:
Observe precautions in all sections. Collect spilled material and place in a container.
RECOMMENDED DISPOSAL:
Reclamation or incineration in a permitted hazardous waste facility capable of meeting applicable regulatory requirements for destruction and removal is preferred. Otherwise, dispose in accordance with applicable regulations. Cured product can generally be disposed in a sanitary landfill.
ENVIRONMENTAL DATA:
N/D

6. SUGGESTED FIRST AID

EYE CONTACT:
Immediately flush eyes with plenty of water for 10 minutes and call a physician.

SKIN CONTACT:
Wash with soap and water.

INHALATION:
None required.

IF SWALLOWED:
None required.

7. PRECAUTIONARY INFORMATION

Use in well ventilated areas. Avoid eye and skin contact. Avoid breathing of vapors in confined areas with no ventilation. Keep out of reach of children.

NOTE: Utilize personal protection equipment when handling this product, i.e. impervious gloves and safety goggles or glasses.

8. HEALTH HAZARD DATA

EYE CONTACT: Irritating to eyes upon direct contact.

SKIN CONTACT: May be irritating to skin upon prolonged contact.

PRAIRIE
SEALANT

3M

MATERIAL SAFETY DATA SHEET

3M
3M CENTER
ST. PAUL, MINNESOTA
55144-1000
612/733-1110 - Operator 55 Duns No: 00-617-2082

DIVISION: ADHESIVES, COATINGS AND SEALERS
TRADE NAME: SCOTCH-GRIP(R) Industrial Adhesive 4799
3M I.D. NUMBER: 62-4799-2631-3 62-4799-5530-4 62-4799-6530-3
62-4799-7530-2 62-4799-8530-1 62-4799-9530-0
62-4799-9531-8

ISSUED: NOVEMBER 2, 1985
SUPERSEDES: OCTOBER 21, 1985
DOCUMENT: 1027549

1. INGREDIENTS

INGREDIENTS	C.A.S. NO.	PERCENT	EXPOSURE LIMITS	
synthetic rubber	N/A		N/D	5
zinc rosinate	N/A		N/D	5
hydrocarbon resin	N/A		N/D	5
phenolic resin	N/A		N/D	5
talc	N/A		N/D	5
TOTAL OF THE ABOVE	N/A	39.0	N/D	5
petroleum distillate	8030-30-6	41.0	200 ppm	1
n-hexane	110-54-3	14.0	50 ppm	1
toluene	108-88-3	6.0	100 ppm	1

SOURCE OF EXPOSURE LIMIT DATA:
1. ACGIH Threshold Limit Values
2. Federal OSHA Permissible Exposure Limit
3. 3M Exposure Guidelines
4. Chemical Manufacturer Recommended Guidelines
5. None Established

ABBREVIATIONS:
N/D - Not Determined
N/A - Not Applicable

2. PHYSICAL DATA

BOILING POINT:	140F (Petro)
VAPOR PRESSURE:	@ 68F 120 mm
VAPOR DENSITY (Air=1):	3.0
EVAPORATION RATE (Ether=1):	2.5
APPEARANCE AND ODOR:	Gray medium paste - mild odor
SOLUBILITY IN WATER:	Very slight
SP. GRAVITY (Water=1):	0.82
PERCENT VOLATILE:	Approx. 65
VISCOSITY:	7,500-18,000 CPS
pH:	N/D

3. FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (Closed Cup): -14F PETRO
FLAMMABLE LIMITS - LEL: 1.0 UEL: 7.0

EXTINGUISHING MEDIA:
CO2, foam, dry chemical
SPECIAL FIRE FIGHTING PROCEDURES:
Fire fighters should be equipped with self-contained breathing apparatus when fighting fires involving this material.
UNUSUAL FIRE AND EXPLOSION HAZARDS:
Extremely flammable. Overheated, closed containers adjacent to fire could explode due to pressure buildup.

4. REACTIVITY DATA

STABILITY: STABLE

INCOMPATIBILITY - MATERIALS TO AVOID:
N/A
HAZARDOUS POLYMERIZATION: MAY NOT OCCUR

HAZARDOUS DECOMPOSITION PRODUCTS:
CO, CO2 and smoke particles when subjected to excessive heat or flame.

5. ENVIRONMENTAL INFORMATION

SPILL RESPONSE:
Observe precautions in all sections. Extinguish all ignition sources, collect spilled material, cleanup residue and store in closed metal container (U.S. Dept. of Transportation approved if waste will be shipped). Use absorbent material as needed in cleanup procedure.
RECOMMENDED DISPOSAL:
Commercial incineration with destruction and removal efficiency greater than 99.99% or reclamation is preferred. Otherwise, dispose in accordance with local and current U.S. Environmental Protection Agency regulations. U.S. EPA Hazardous Waste Number: D001 (Ignitable).
ENVIRONMENTAL DATA:
N/D

6. SUGGESTED FIRST AID

EYE CONTACT:
Immediately flush eyes with plenty of water for at least 10 minutes and call a physician.

SKIN CONTACT:
Wash affected area with soap and water. Prolonged contact may defat skin, resulting in dryness or cracking of the skin.

INHALATION:
Provide fresh air. If not breathing, give artificial respiration. Call a physician.

IF SWALLOWED:
Do not induce vomiting; immediately call a physician.

7. PRECAUTIONARY INFORMATION

Keep away from heat, sparks and flame. Use only in areas adequately ventilated with enough air movmement to remove vapors and prevent vapor buildup. The vapors released by this product can be easily ignited. Prevent contact with eyes and skin. Avoid prolonged breathing of vapors. Keep container closed when not in use. Keep out of reach of children.
NOTE: Utilize personal protection equipment when handling this product, i.e. impervious gloves and chemical goggles or safety glasses, whichever is most appropriate in the work situation. Provide local exhaust ventilation if necessary to keep vapor level below the permissable exposure limits.

8. HEALTH HAZARD DATA

EYE CONTACT: Liquid may cause severe irritation. Vapor may cause irritation.

SKIN CONTACT: Prolonged and repeated contact may cause irritation and dermatitis. May be absorbed through skin. Symptoms include dryness and cracking.

INHALATION: Inhalation of vapors at concentrations exceeding the established exposure limits may cause respiratory system irritation. Symptoms of overexposure include drowsiness, light headedness, dizziness, nausea and headache. Gross overexposure, such as would occur with deliberate inhalation of concentrated vapors, may cause nervous system damage as well as liver damage with blood effects. Chronic overexposure to n-hexane may cause nervous system damage.

INGESTION: Swallowing may cause gastrointestinal irritation, nausea, diarrhea and nervous system impairment. Aspiration into the lung as a result of vomiting may cause lung damage.

Great Sealant 1

3M

MATERIAL SAFETY DATA SHEET

3M
3M CENTER
ST. PAUL, MINNESOTA
55144-1000
612/733-1110 - Operator 55 Duns No: 00-617-2062

DIVISION: ADHESIVES, COATINGS AND SEALERS
TRADE NAME: SCOTCH-SEAL(R) Metal Sealant 2084
3M I.D. NUMBER: 62-2084-2631-2 62-2084-8530-0 62-2084-9530-9
62-2084-9531-7

ISSUED: NOVEMBER 2, 1985
SUPERSEDES: OCTOBER 7, 1985
DOCUMENT: 1024355

1. INGREDIENTS

INGREDIENTS	C.A.S. NO.	PERCENT	EXPOSURE LIMITS	
acrylonitrile/butadiene rubber	N/A		N/D	5
phenolic resin	N/A		N/D	5
gum rosin	N/A		N/D	5
salicylic acid	N/A		N/D	5
pigments	N/A		N/D	5
clay filler	N/A		N/D	5
antioxidant	N/A		N/D	5
TOTAL OF THE ABOVE	N/A	41.0- 43.0	N/D	5
acetone	67-64-1	57.0- 59.0	750 ppm	1

SOURCE OF EXPOSURE LIMIT DATA:
1. ACGIH Threshold Limit Values
2. Federal OSHA Permissible Exposure Limit
3. 3M Exposure Guidelines
4. Chemical Manufacturer Recommended Guidelines
5. None Established

ABBREVIATIONS:
N/D - Not Determined
N/A - Not Applicable

2. PHYSICAL DATA

BOILING POINT:	132F (Acetone)
VAPOR PRESSURE:	@68F 180 mm
VAPOR DENSITY (Air=1):	2.0
EVAPORATION RATE (Ether=1):	1.9
APPEARANCE AND ODOR:	Aluminum, heavy syrup - ketone odor
SOLUBILITY IN WATER:	Slight
SP. GRAVITY (Water=1):	1.0
PERCENT VOLATILE:	Approx. 58
VISCOSITY:	31,646 cps
pH:	N/D

3. FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (Closed Cup): 0F
FLAMMABLE LIMITS - LEL: 2.6 UEL: 12.8

EXTINGUISHING MEDIA:
CO2, foam, dry chemical
SPECIAL FIRE FIGHTING PROCEDURES:
Fire fighters should be equipped with self-contained breathing apparatus when fighting fires involving this material.
UNUSUAL FIRE AND EXPLOSION HAZARDS:
Extremely Flammable. Overheated, closed containers adjacent to fire could explode due to pressure buildup.

4. REACTIVITY DATA

STABILITY: STABLE

INCOMPATIBILITY - MATERIALS TO AVOID:
N/A
HAZARDOUS POLYMERIZATION: MAY NOT OCCUR

HAZARDOUS DECOMPOSITION PRODUCTS:
Thermal decomposition or burning may produce nitrogen decomposition products, including the possibility of hydrocyanic acid (HCN).

5. ENVIRONMENTAL INFORMATION

SPILL RESPONSE:
Observe precautions in all sections. Extinguish all ignition sources. Collect spilled material. Cleanup residue and place in metal container (U.S. Dept. of Transportation approved if it is to be shipped). Use absorbent material as needed in cleanup procedure.
RECOMMENDED DISPOSAL:
Commercial incineration with destruction and removal efficiency greater than 99.99% or reclamation is preferred. Otherwise, dispose in accordance with local and current U.S. Environmental Protection Agency regulations.
U.S. EPA Hazardous Waste Number: D001 (Ignitable).
ENVIRONMENTAL DATA:
N/D

6. SUGGESTED FIRST AID

EYE CONTACT:
In case of eye contact, immediately flush eyes with plenty of water for at least 10 minutes. Call a physician.

SKIN CONTACT:
Wash with soap and water.

INHALATION:
If inhaled, remove to uncontaminated air. If not breathing, give artificial respiration. Call a physician.

IF SWALLOWED:
If swallowed, do not induce vomiting; immediately call a physician.

7. PRECAUTIONARY INFORMATION

Keep away from heat, sparks and flame. Use only in areas adequately ventilated with enough air movement to remove vapors and prevent vapor buildup. The vapors released by this product can be easily ignited. Avoid contact with eyes and skin. Avoid prolonged breathing of vapors. Keep container closed when not in use. Keep out of the reach of children.
NOTE: Utilize personal protection equipment when handling this product, i.e. impervious gloves and chemical goggles or safety glasses.

8. HEALTH HAZARD DATA

EYE CONTACT: Liquid contact with the eye may cause severe eye irritation. Vapor contact is also irritating.

SKIN CONTACT: May cause irritation on prolonged or repeated contact.

INHALATION: Overexposure to vapors may cause respiratory system irritation and temporary nervous system impairment. Symptoms of overexposure include dizziness, giddiness, dryness of the mouth, weakness, nausea and headache.

INGESTION: May cause digestive system irritation. Aspiration into the lungs through vomiting following ingestion may cause lung damage. Symptoms following ingestion include irritation, nausea, difficult breathing and nervous system impairment.

U.S. DEPARTMENT OF LABOR
Occupational Safety and Health Administration

Form Approved
OMB No. 44-R1387

MATERIAL SAFETY DATA SHEET

Required under USDL Safety and Health Regulations for Ship Repairing, Shipbuilding, and Shipbreaking (29 CFR 1915, 1916, 1917)

SECTION I

MANUFACTURER'S NAME	EMERGENCY TELEPHONE NO.
Pacer Technology & Resources, Inc.	(408) 379-9701

ADDRESS (Number, Street, City, State, and ZIP Code)
1600 Dell Avenue, Campbell, California 95008

CHEMICAL NAME AND SYNONYMS	TRADE NAME AND SYNONYMS
Ethyl α-Cyanoacrylate	Pacer Tech ATS-RX100

CHEMICAL FAMILY	FORMULA
Cyanoacrylate	$CH_2=CCN-COOC_2H_5$, Proprietary

SECTION II - HAZARDOUS INGREDIENTS

PAINTS, PRESERVATIVES, & SOLVENTS	%	TLV (Units)	ALLOYS AND METALLIC COATINGS	%	TLV (Units)
PIGMENTS	0		BASE METAL	0	
CATALYST	0		ALLOYS	0	
VEHICLE	0		METALLIC COATINGS	0	
SOLVENTS	0		FILLER METAL PLUS COATING OR CORE FLUX	0	
ADDITIVES	0		OTHERS	0	
OTHERS	0				

HAZARDOUS MIXTURES OF OTHER LIQUIDS, SOLIDS, OR GASES	%	TLV (Units)

SECTION III - PHYSICAL DATA

BOILING POINT (°F.) @6mmHg.	149	SPECIFIC GRAVITY (H_2O=1)	1.07
VAPOR PRESSURE (mm Hg.) @20°C	~1	PERCENT, VOLATILE BY VOLUME (%)	---
VAPOR DENSITY (AIR=1) @20°C	---	EVAPORATION RATE (_____ =1)	---
SOLUBILITY IN WATER	Insoluble		
APPEARANCE AND ODOR	A transparent liquid with a special stimulative smell.		

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (Method used)	FLAMMABLE LIMITS	Lel	Uel
TCC 176°F			

EXTINGUISHING MEDIA
Flush with large quantities of water or a dry chemical extinguisher.

SPECIAL FIRE FIGHTING PROCEDURES
Flush with large quantities of water or a dry chemical extinguisher.

UNUSUAL FIRE AND EXPLOSION HAZARDS
Same as above.

(Continued on reverse side)

SECTION V - HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE: 2 ppm

EFFECTS OF OVEREXPOSURE:
The adhesive bonds skin rapidly and strongly, irritates eyes and mucous membranes.

EMERGENCY AND FIRST AID PROCEDURES:
Eyes: Flush thoroughly and quickly with water, obtain medical attention and wash skin with soap and water.

Inhalation: Move to fresh air.

Ingestion: Induce vomiting and obtain medical attention.

SECTION VI - REACTIVITY DATA

STABILITY			CONDITIONS TO AVOID
	UNSTABLE	Above 176°F	Heat, moisture & alkaline substances.
	STABLE	Up to 122°F	Please store in cool area.

INCOMPATABILITY *(Materials to avoid)*: Polymerized by water, alcohols, amines and alkaline substance.

HAZARDOUS DECOMPOSITION PRODUCTS:

HAZARDOUS POLYMERIZATION			CONDITIONS TO AVOID
	MAY OCCUR		
	WILL NOT OCCUR	XX	Do store in a cool area and DO NOT make adhesive contact with basic materials.

SECTION VII - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:
Absorb with tissue paper or cloth. Dispose of solid waste in water.

WASTE DISPOSAL METHOD:
Dump as chemical waste.

SECTION VIII - SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION *(Specify type)*: Not necessary.

VENTILATION		
	LOCAL EXHAUST: Not necessary	SPECIAL: Not necessary
	MECHANICAL *(General)*: Sealed water scrubber	OTHER: Not necessary

PROTECTIVE GLOVES: Rubber or vinyl.

EYE PROTECTION: Safety glasses with shields.

OTHER PROTECTIVE EQUIPMENT:

SECTION IX - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING:
Avoid moisture, do not store above 24°C. Keep container tightly closed.

OTHER PRECAUTIONS:
Avoid contact with skin and eyes, breathing vapor and avoid exposure to sunlight.

PRODUCT NAME TAPEZE X-2

Material Safety Data Sheet

METALLOID CORPORATION

219-356-3200

500 JACKSON STREET HUNTINGTON, IN 46750

Signature Robert F. Kowalski Robert F. Kowalski Date July 3, 1986

SECTION 1 IDENTITY

Trade Name (Used On Label) TAPEZE X-2

Chemical Family Straight Oil Metalworking Fluid

SECTION 2 HAZARDOUS INGREDIENTS

Chemical Name	%	CAS#	TLV (Units)
Hydrotreated, light paraffinic distillate, petroleum	10	64742-55-8	*
Hydrotreated light naphthenic distillate, petroleum	2	64742-53-6	*
Hydrotreated heavy naphthenic distillate, petroleum	48	64742-52-5	*

* $5mg/m^3$ for oil mist in air

SECTION 3 PHYSICAL AND CHEMICAL DATA (FIRE AND EXPLOSION DATA)

Boiling Point 360°F	Specific Gravity (H_2O=1) 0.98 @ 70°F	Vapor Pressure (mm Hg)	<0.01
Percent Volatile By Volume (%) Negligible	Vapor Density (Air = 1) > 5.0	pH	NA
Solubility In Water Negligible	Evaporation Rate n-Butyl Acetate=1 <0.01		

Appearance and Odor: Dark viscous liquid with sulfurized oil odor

Flash Point 375°F (COC)	Flammable Limits in Air % by Volume	Lower NA	Upper NA

Extinguisher Media: Carbon Dioxide and Dry Chemical

Special Fire Fighting Procedures: Use water spray to cool containers exposed to flames. Firefighting personnel should wear respiratory protection.

Unusual Fire and Explosion Hazards: Products of combustion include fumes, smoke, and carbon dioxide.

SECTION 4 PHYSICAL HAZARDS (REACTIVITY DATA)

Stability: ☐ Unstable ☒ Stable — Conditions to Avoid: Not Applicable

Incompatibility (Materials to Avoid): Strong oxidizing and Reducing agents

Hazardous Decomposition Products: Carbon oxides, Sulfur oxides, and Hydrogen chlorides

Hazardous Polymerization: ☐ May Occur ☒ Will Not Occur — Conditions to Avoid: Not Applicable

NA = Not Applicable NDA = No Data Available

PRODUCT NAME TAPEZE X-2

SECTION 5 HEALTH HAZARD INFORMATION

Threshold Limit Value: Not Established — $5mg/m^3$ for mist

Signs and Symptoms of Overexposure

1. Acute Overexposure: If splashed into eyes, irritation may occur. Prolonged or repeated skin contact with this product tends to remove skin oils possibly leading to irritation and/or dermititis.

2. Chronic Overexposure: None known. This product has a long history of manufacture and industrial use without any known adverse health effect to manufacture and industrial workers.

Emergency and First Aid Procedures

1. Eyes: Flush with large amounts of water for a minimum of 15 minutes. Call a physician.

2. Skin: If irritation develops, wash with soap and water. If irritation persists, call a physician.

3. Ingestion: DO NOT INDUCE VOMITING - Call a physician immediately.

4. Inhalation: Remove to fresh air if dizziness develops.

SECTION 6 SPECIAL PROTECTION INFORMATION

Respiratory Protection: Not normally required if ventilation is sufficient.

Ventilation: If mists are present, provide adequate ventilation to control level below PEL.

Protective Gloves: Oil resistent recommended.

Eye Protection: Safety glasses or splash goggles.

Other Protective Clothing or Equipment: If there is likelyhood of splashing, an oil resistent apron should be worn to prevent clothing contamination.

SECTION 7 SPILL OR LEAK PROCEDURES

Steps to be Taken in Case Material Spilled or Released: Shut off ignition sources. Contain spill. Large quantities can be pumped. Small quantities may be soaked up on oil absorbent.

Waste Disposal Methods: Dispose of according to Local, State, and Federal regulations.

SECTION 8 SPECIAL PRECAUTIONS

Precautions to be Taken in Handling and Storage: Keep away from flames, sparks, or other heat sources. Never use a torch to cut or weld on or near container. Empty containers may contain explosive vapor. Do not transfer to unlabeled containers. Keep containers closed when not in use.

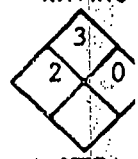
Other Precautions: For industrial use only.

ADAPTED FROM USDL FORM NO. L29-005-4-MAY 1970

SHELL OIL COMPANY
SHELL CHEMICAL COMPANY
SHELL DEVELOPMENT COMPANY
SHELL PIPE LINE CORPORATION

MSDS 7610-2

HAZARD RATING



NFPA

MATERIAL SAFETY DATA SHEET

SECTION I

MANUFACTURER'S NAME: Shell Chemical Company	EMERGENCY TELEPHONE NO.: 713-473-9461
ADDRESS (Number, Street, City, State, and ZIP Code): One Shell Plaza, P. O. Box 2463, Houston, TX 77001	
CHEMICAL NAME AND SYNONYMS: xylene; dimethyl benzene; methyl toluene, xylol	TRADE NAME: Shell Xylene
CHEMICAL FAMILY: aromatic hydrocarbon	FORMULA: $C_6H_4(CH_3)_2$

SECTION II HAZARDOUS INGREDIENTS*

COMPOSITION	%	SPECIES	LD_{50} ORAL	LD_{50} DERMAL	LC_{50} CONCENTRATION	LC_{50} HOURS
Shell Xylene*	100	Rat	>5.0 ml/kg		5,000 ppm (approx.)	4
		Rabbit		>2.0 ml/kg		

* A mixture of ortho-, meta-, and para- xylenes plus ethylbenzene

SECTION III PHYSICAL DATA

BOILING POINT (°F)	281-284	SPECIFIC GRAVITY (H_2O=1)	0.871
VAPOR PRESSURE (mmHg) 68°F (20°C)	6	PERCENT VOLATILE BY VOLUME (%)	
VAPOR DENSITY (AIR=1)	3.7	EVAPORATION RATE (_____ =1) nBuAc=1	0.6
SOLUBILITY IN WATER	Negligible		
APPEARANCE AND ODOR	Colorless liquid with aromatic odor.		

SECTION IV FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (Method used)	FLAMMABLE LIMITS	Lel	Uel
Tag Closed Cup 81°F		1.0	7.0

EXTINGUISHING MEDIA: Handle as a FLAMMABLE LIQUID. Use foam, CO_2, steam, water-fog, dry chemicals

SPECIAL FIRE FIGHTING PROCEDURES: Do not use water, exclude air. Use water spray to cool exposed drums. Wear self-containe breathing apparatus. Consult local fire marshal.

UNUSUAL FIRE AND EXPLOSION HAZARDS: None

*Modified by Shell Oil Company

SECTION V HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE
ACGIH TWA = 100 ppm (skin)

EFFECTS OF OVEREXPOSURE
Anesthesia - headache, nausea, dizziness, etc. Liquid moderately irritating to skin and eyes. Irritant to upper respiratory system.

EMERGENCY AND FIRST AID PROCEDURES
Remove victim and restore breathing if required. Remove from skin with soap and water. Flush eyes with water for 15 minutes. Get medical attention if irritation persists.

SECTION VI REACTIVITY DATA

STABILITY			CONDITIONS TO AVOID
	UNSTABLE		
	STABLE	X	

INCOMPATIBILITY (Materials to avoid)
Not applicable

HAZARDOUS DECOMPOSITION PRODUCTS
CO, CO_2 when combusted.

HAZARDOUS POLYMERIZATION			CONDITIONS TO AVOID
	MAY OCCUR		
	WILL NOT OCCUR	X	

SECTION VII SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED Eliminate all ignition sources. Wear self contained respirator. Large spills-dike and remove liquid by vacuum truck or by pumping into salvage vessels. Small spills-soak up with adsorbent such as rags or clay and place in sealed container. Can create explosion hazard in sewers - Notify authorities.

WASTE DISPOSAL METHOD
Reclaim solvent. Burn in approved incinerator. Bury in approved dump.

SECTION VIII SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (Specify type)
NIOSH approved respiratory equipment

VENTILATION		
	LOCAL EXHAUST: Desirable	SPECIAL
	MECHANICAL (General): With approved Class D explosion-proof motors and switches	OTHER

PROTECTIVE GLOVES	EYE PROTECTION
Rubber gloves if direct skin contact is expected	Conventional eye cover to guard against unexpected splashing.
OTHER PROTECTIVE EQUIPMENT	

SECTION IX SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING
Avoid open flames and spark sources. Avoid splash-filling. Provide adequate ventilation. Avoid excessive heat. Handle as a flammable liquid

OTHER PRECAUTIONS
Do not breathe vapor.

Product Safety & Compliance - O&C Products
Shell Oil Company
DATE May, 1978

MATERIAL SAFETY DATA SHEET

Sun Refining and Marketing Company

THIS PRODUCT SAFETY INFORMATION IS PERIODICALLY TO ASSIST OUR CUSTOME COMPLIANCE WITH HEALTH/SAFETY/ENVI REGULATIONS. PLEASE FORWARD THIS T OF SAFETY AND HEALTH. THIS FORM RE PREVIOUS FORM DATED 08/03/85

PRINTED: 85/10/12

SECTION 1 IDENTIFICATION

NAME XYLENE | SYNONYMS XYLOL

REGISTRY NO 1330207 | CAS NAME XYLENE

SUPERIOR OIL COMPANY
ATTENTION-MR.BYRON BETTES
P O BOX 418226
INDIANAPOLIS IN 46241

CHEMICAL FAMILY BLEND AROMATIC HYDR

SUN REFINING
AND MARKETING COMPAN
TEN PENN CENTER 1801 MARKET S
PHILADELPHIA PA 19103

INFORMATION SUPPLIED BY AND PHONE JONATHAN M. HA (215) 293-6321

SECTION 2 INGREDIENTS

MATERIAL(S)

TYPICAL COMPOSTION: ORTHO-XYLENE 17.5%. META-XYLENE 47.1%. PARA-XYLENE 22.0%. ETHYL TOLUENE (0.8%) AND BENZENE (30 PPM MAX.).

SECTION 3 PHYSICAL DATA

BOILING POINT: 760 mm Hg 278 TO 290 °F. 137 TO 143 °C

FREEZING POINT: MINUS 53 °F. MINUS 47.4 °C

SPECIFIC GRAVITY: (H_2O=1) 0.87

BULK DENSITY: (WHEN APPLICABLE) Kg/m³ N/A

VAPOR PRESSURE: (mm Hg AT 20°C) 9 AT 25C

VAPOR DENSITY: (AIR = 1) 3.7

SOLUBILITY IN H_2O: (% BY VOL) NIL

% VOLATILES BY VOL: 100

EVAPORATION RATE: (ETHYL ETHER = 1) 10 X SLOWER

pH INFO

OCTANO PARTITI

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SECTION 4 FIRE AND EXPLOSION DATA (CONT. ON PAGE 2)

FLASH POINT: 79 TAG C.C. °F 26 TAG C.C. °C

AUTOIGNITION TEMPERATURE: 870 °F 46

NFPA CLASSIFICATION

HEALTH 2 FIRE 3 REACTIVITY 0

SPECIFIC HAZARD

HAZARD RATING

LEAST 0 SLIGHT 1 MODERATE 2 HIGH 3 EXTREME 4

FLAMMABLE L

LOWER EXPLOSIVE LEVEL (LEL)

UPPER EXPLOSIVE LEVEL (UEL)

FIRE AND EXPLOSION HAZARDS

FLAMMABLE LIQUID (FLASH POINT <100F)

MATERIAL SAFETY DATA SHEET

Sun Refining and Marketing Company

THIS PRODUCT SAFETY INFORMATION I
PERIODICALLY TO ASSIST OUR CUSTOM
COMPLIANCE WITH HEALTH/SAFETY/ENV
REGULATIONS. PLEASE FORWARD THIS
OF SAFETY AND HEALTH. THIS FORM R
PREVIOUS FORM DATED 08/03/85

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SECTION 3 PHYSICAL DATA

LING POINT: 760 mm Hg 278 TO 290 °F, 137 TO 143 °C

TING POINT: MINUS 53 °F, MINUS 47.4 °C

CIFIC GRAVITY: (H_2O=1) 0.87

KING DENSITY: (WHEN APPLICABLE) Kg/m³ N/A

VAPOR PRESSURE: (mm Hg AT 20°C) 9 AT 25C

VAPOR DENSITY: (AIR = 1) 3.7

SOLUBILITY IN H_2O: (% BY VOL) NIL

% VOLATILES BY VOL: 100

EVAPORATION RATE: (ETHYL ETHER = 1) 10 X SLOWER

pH INF

OCTAN PARTI

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SECTION 4 FIRE AND EXPLOSION DATA (CONT. ON PAGE 2)

SH POINT: 79 TAG C.C. °F 26 TAG C.C. °C

AUTOIGNITION TEMPERATURE: 870 °F 4

NFPA CLASSIFICATION			HAZARD RATING			FLAMMABLE
TH 2	FIRE 3	REACTIVITY 0	LEAST 0	SLIGHT 1		LOWER EXPLOSIVE LEVEL (LEL)
IFIC HAZARD			MODERATE 2	HIGH 3	EXTREME 4	UPPER EXPLOSIVE LEVEL (UEL)

FIRE AND EXPLOSION HAZARDS

INMABLE LIQUID (FLASH POINT <100F)

POLYMERIZATION
OLYMERIZATION WILL NOT OCCUR.

SECTION 7 PROTECTION INFORMATION

VENTILATION
E ONLY WITH ADEQUATE VENTILATION. VENTILATE AS NEEDED TO COMPLY WITH EXPOSURE LIM
NTILATION RECOMMENDED.

PERSONAL PROTECTIVE EQUIPMENT
SPLASH PROOF CHEMICAL GOGGLES RECOMMENDED TO PROTECT AGAINST SPLASH OF PRODUCT.

OVES IMPERVIOUS GLOVES RECOMMENDED WHEN PROLONGED SKIN CONTACT CANNOT BE AVOIDED.

PIRATOR CONCENTRATION-IN-AIR DETERMINES PROTECTION NEEDED. USE ONLY NIOSH CERTIFIED

HER IF CONTACT IS UNAVOIDABLE, WEAR IMPERVIOUS PROTECTIVE GEAR.

SECTION 8 DISPOSAL PROCEDURES

AQUATIC TOXICITY
LENE IS TOXIC TO FISH AND FISH FOOD ORGANISMS. FOR O-AND M-XYLENE, 96-HOUR TLM VA
MG/LITER WERE FOUND FOR FATHEAD MINNOWS, BLUEGILLS, GOLDFISH, AND GUPPIES, RESPE

SPILL, LEAK OR RELEASE
EVENT IGNITION: STOP LEAK: VENTILATE AREA. CONTAIN SPILL. USE WATER SPRAY TO DISP
A: STATE AGENCY IF REQUIRED. ABSORB ON INERT MATERIAL.

WASTE DISPOSAL
LLOW FEDERAL, STATE AND LOCAL REGULATIONS. RCRA HAZARDOUS WASTE. DO NOT FLUSH TO
CINERATE. DRAIN TO CHEMICAL WASTE PLANT. CONTRACT TO AUTHORIZED DISPOSAL SERVICE.

ECTION 9 SPECIAL PRECAUTIONS

STORAGE AND HANDLING CONDITIONS
EP AWAY FROM HEAT, SPARKS AND FLAME. KEEP CONTAINER TIGHTLY CLOSED. KEEP IN WELL
ASS IC STORAGE. CONSULT NFPA AND OSHA CODES. TRANSFER OPERATIONS MUST BE ELECTRIC
SSIPATE STATIC BUILDUP. WASH THOROUGHLY AFTER HANDLING.

ECTION 10 PRECAUTIONARY LABEL (IF APPLICABLE)
RNING! FLAMMABLE. DANGER! HARMFUL OR FATAL IF SWALLOWED. VAPOR HARMFUL. KEEP AWAY
AME. KEEP CONTAINERS CLOSED. USE ONLY WITH ADEQUATE VENTILATION. AVOID PROLONGED
OID PROLONGED OR REPEATED CONTACT WITH SKIN. IF SWALLOWED, DO NOT INDUCE VOMITING
SISTANCE-IMMEDIATELY. KEEP OUT OF REACH OF CHILDREN. D.O.T. FLAMMABLE LIQUID LABE
PTY" PICTOGRAM AND MESSAGE ALSO REQUIRED FOR CONTAINERS

MATERIAL SAFETY DATA SHEET INDEX

DU PONT MAINTENANCE FINISHES

MSDS NO.	
MF 1.0	AEROSOLS • 900P-930P.
MF 10.0	URETHANE ENAMELS AND PRIMERS • Products starting with these prefixes: 62, 326, 333, 338, 364, 369, 826, 827, 1P-16P.
MF 20.0	URETHANE ACTIVATORS AND CLEARS • RK-808, RK-5406, VG-1450, VG-6005, VG-Y-250, VG-Y-511, VG-Y-518, VG-Y-710, VG-Y-719, 192 S, 792S.
MF 30.0	ALL SOLVENT BASED PAINTS (OTHER THAN URETHANES) • Products starting with these prefixes: 28, 29, 63, 65, 66, 67, 75, 80, 81, 88, 89, 93, 96, 112, 113, 166, 181, 183, 210, 347, 354, 360, 373, 481, 523, 529, 612, 621, 631, 639, 657, 681, 802, 818, 823, 825, 840, 881, 909, 917, 918, 929, 934, 939, 943, 951, 964, 994, 995, 1065, 1081, 1657, 1681, VF, VG (NON-ISOCYANATE), VQ, 704C.

MSDS. NO.	
MF 40.0	ALL THINNERS
MF 50.0	DRY BULK ITEMS • 347-Y-B910, 347-Y-B912, 347-Y-B931, 347-Y-B937, 347-Y-B971, 347-Y-B973, VM-5596.
MF 60.0	PAINT ADDITIVES • VD-1287, VD-E-56433, VH-Y-260, VH-Y-691, VM-8195, CM colorants.
MF 70.0	LATEX BASED PAINTS • Products starting with these prefixes: 310, 311, 315, 347-Y-A971, 389, 392, 394, 830, and codes ending with the suffix C.

Printed in U.S.A.

MSDS NO. MF 1.0

DUPONT
REG. U.S. PAT. & TM. OFF.

MATERIAL SAFETY DATA SHEET

MAINTENANCE FINISHES
November 18, 1985

AEROSOL FINISHES

Section I

Manufacturer
E. I. du Pont de Nemours & Company, Inc.
Finishes & Fabricated Products Department
Wilmington, DE 19898
Telephone: Product Information (800) 441-7515
Medical emergency (800) 441-3637
Transportation emergency (800) 424-9300 (CHEMTREC)

Product: Acrylic Enamels and Alkyd Primers packaged in aerosol containers.
D.O.T. Hazard Class: Flammable Gas

Section II — Hazardous Ingredient Listing

This section lists all products sold in this classification and the hazardous ingredients in each. For specific information regarding the hazard(s) associated with each ingredient, refer to Section X. If you have a Du Pont Maintenance Finishes Aerosol not specifically designated below, check the label for the list of ingredients and then refer to Section X.

Product Code	Flash Point °F (Closed Cup)	Hazardous Ingredients
900P	<20	1, 2, 3, 4, 5, 7, 9, 16, 18, 20, 21
901P	<20	1, 2, 3, 4, 5, 7, 9, 16, 20, 21, 28
902P	<20	2, 3, 4, 5, 16, 20, 21
904P	<20	1, 2, 3, 4, 5, 7, 8, 9, 13, 16, 17, 18, 20, 21, 25
905P	<20	1, 2, 3, 4, 5, 7, 9, 16, 18, 20, 21
906P	<20	1, 2, 3, 4, 5, 9, 14, 16, 18, 20, 21, 25
907P	<20	1, 2, 3, 4, 5, 13, 14, 16, 18, 20, 21, 25
908P	<20	1, 2, 3, 4, 5, 16, 18, 20, 21, 25
909P	<20	1, 2, 3, 4, 5, 7, 9, 16, 18, 20, 21
910P	<20	1, 2, 3, 4, 5, 7, 9, 11, 16, 18, 20, 21, 25
911P	<20	1, 2, 3, 4, 5, 9, 16, 18, 20, 21
912P	<20	1, 2, 3, 4, 5, 7, 9, 16, 18, 20, 21
914P	<20	1, 3, 4, 5, 11, 16, 20, 21
915P	<20	2, 3, 16, 20, 21, 26
916P	<20	1, 3, 4, 5, 16, 20
917P	<20	2, 16, 20, 21, 27
918P	<20	1, 2, 3, 4, 5, 9, 16, 18, 20, 21
919P	<20	1, 2, 3, 4, 5, 7, 9, 16, 17, 20, 21
920P	<20	1, 3, 4, 5, 16, 20, 21
921P	<20	1, 2, 3, 4, 5, 9, 16, 18, 20, 21
922P	<20	1, 2, 3, 4, 5, 7, 9, 16, 18, 20, 21
923P	<20	1, 2, 3, 4, 5, 9, 16, 18, 20, 21
924P	<20	2, 5, 9, 15, 16, 20, 22
925P	<20	1, 2, 3, 4, 5, 7, 9, 16, 18, 20, 21
926P	<20	1, 2, 3, 4, 5, 7, 9, 16, 18, 20, 21
927P	<20	1, 2, 3, 4, 5, 7, 9, 16, 18, 20, 21
928P	<20	1, 2, 3, 4, 5, 7, 9, 16, 18, 20, 21
929P	<20	1, 2, 3, 4, 5, 9, 16, 18, 20, 21
930P	<20	1, 2, 3, 4, 5, 9, 14, 16, 18, 20, 21

Section III — Physical Data

Evaporation rate: Faster than ether
Solubility in water: Moderate — appreciable, depending on color
Approximate boiling range: Below 0°F (propellant)
Gallon weight: 6.2 lbs. typical
Vapor density: Heavier than air
Percent volatile by volume: 92% typical
Percent volatile by weight: 85% typical

Section IV — Fire & Explosion Data

Flash point (Method): Below 20°F (closed cup)
Extinguishing media: Foam, carbon dioxide, dry chemical
Special fire fighting procedures: Full protective equipment, including self-contained breathing apparatus, is recommended. Water may be ineffective. Water from fog nozzles may be used to cool closed containers to prevent pressure build up.
Unusual fire and explosion hazards: Contents under pressure. Keep at room temperature as exposure to sunlight or other heat may cause cans to burst, propelling contents across area.

Section V — Health Hazard Data

Ingestion: Gastro-intestinal distress.
In the unlikely event of ingestion, call a physician immediately and have names of ingredients available.
Inhalation: Overexposure may cause nose and throat irritation. May cause central nervous system effects such as dizziness, headache, nausea, staggering gait, confusion and unconsciousness. Reports have associated repeated and prolonged overexposure to solvents with permanent brain and nervous system damage.
If affected by inhalation of vapor or spray mist, remove to fresh air. If not breathing, give artificial respiration, preferably mouth to mouth. If breathing difficulty persists, or occurs later, consult a physician.
Skin or eye contact: May cause eye irritation or burning of the eyes. Repeated or prolonged liquid contact may cause skin irritation with discomfort and dermatitis.
In case of eye contact, immediately flush with plenty of water for at least 15 minutes; call a physician.
In case of skin contact, wash with soap and water. If irritation occurs, contact a physician.

Section VI — Reactivity Data

Stability: Stable
Conditions to avoid: Do not store above 120°F.
Incompatibility (materials to avoid): none reasonably foreseeable.
Hazardous decomposition products: CO, CO_2, smoke, oxides of heavy metals reported in Section X.
Hazardous polymerization: Will not occur.

Section VII — Spill or Leak Procedures

Steps to be taken in case material is released or spilled: Ventilate area. Remove sources of ignition. Prevent skin contact and breathing of vapor. Confine and remove with inert absorbent.

Section VII — Spill or Leak Procedures — Continued

Waste disposal method: Do not allow material to contaminate ground water systems. Incinerate absorbed material in accordance with federal, state and local requirements. Do not incinerate in closed containers.

Section VIII — Special Precaution Information

Respiratory: Do not breathe vapors or mists. Wear an appropriate, properly fitted vapor/particulate respirator approved by NIOSH/MSHA (TC23C) during and after application unless air monitoring demonstrates vapor/mist levels are below applicable limits. Follow respirator manufacturer's directions for respirator use.

Ventilation: Provide sufficient ventilation in volume and pattern to keep contaminants below applicable OSHA requirements.

Protective clothing: Coveralls and neoprene gloves are recommended. Do not reuse coveralls while solvent odor is retained in them.

Eye protection: Desirable in all industrial situations. Goggles are preferred to prevent eye irritation. If safety glasses are substituted, include splash guards or side shields.

Protective creams: May be used for ease of clean-up, not for protection.

Section IX — Special Precaution Information

Precautions to be taken in handling and storing. Observe label precautions. Keep away from heat, sparks and flame. Do not store above 120°F. Do not expose to direct sunlight to avoid bursting. Wash thoroughly after handling and before eating and smoking.

Other precautions: Do not sand, flame cut, braze or weld dry coating without NIOSH/MSHA approved respirator or appropriate ventilation.
Do not puncture.
Do not spray near fire or open flame.

Section X — Additional Information

Following is a summary of the ingredients listed in Section II and their known hazards:

Ingredient No.	Name	CAS No.	Vapor Pressure (mm Hg @ 20°C)	Exposure Limits
1.	Methyl ethyl ketone	78-93-3	95	200 ppm-A 200 ppm-O

High concentrations have caused embryotoxic effects in laboratory animals. Methyl ethyl ketone has been demonstrated to potentiate (i.e., shorten the time of onset) the peripheral neuropathy caused by either N-Hexane or Methyl N-butyl ketone. MEK by itself has not been demonstrated to cause peripheral neuropathy.

2.	Toluene	108-88-3	29	100 ppm-A 200 ppm-O

Tests in animals have shown liver, bone marrow and kidney effects.

3.	Acetone	67-64-1	186	750 ppm-A 1000 ppm-A
4.	Butanol	71-36-3	4	50-A ceiling 100-O 25-D 50-D 15 min.

May cause moderate eye burning.

5.	Xylene	1330-20-7	25	100 ppm-A 100 ppm-O

High concentrations have caused embryotoxic effects in laboratory animals. Recurrent overexposure may result in liver and kidney injury. Can be absorbed through the skin in harmful amounts.

6.	Aromatic hydrocarbon	64742-95-6	10	50 ppm-D
7.	Aromatic hydrocarbon	64742-94-5	10	100 ppm-D
8.	Medium mineral spirits	64742-88-7	45	100 ppm-D

Laboratory studies with rats have shown that petroleum distillates cause kidney damage and kidney or liver tumors. These effects were not seen in similar studies with guinea pigs, dogs, or monkeys. Several studies evaluating petroleum workers have not shown significant increases of kidney damage.

9.	VM & P naphtha	64742-89-8	45	300 ppm-A 100 ppm-D

Laboratory studies with rats have shown that petroleum distillates cause kidney damage and kidney or liver tumors. These effects were not seen in similar studies with guinea pigs, dogs, or monkeys. Several studies evaluating petroleum workers have not shown significant increases of kidney damage.

11.	Iron oxide	1309-37-1	None	None
13.	Lead chromate molybdate	12656-85-8	None	150 ug/m³-A as lead (Pb) 50 ug/m³-O as lead (Pb) 50 ug/m³-A as chromium (Cr) 50 mg/m³-O as chromium (Cr)

Overexposure to lead may cause adverse effects to the blood forming, nervous, urinary, *reproductive systems including* embryotoxic effects. Symptoms may include loss of appetite, anemia, disturbance of sleep and fatigue. See OSHA Lead Standard 29CFR1910.1025. Is an IARC, NTP or OSHA Carcinogen.

14.	Lead chromate	18454-12-1	None	150 ug/m³-A as lead (Pb) 50 ug/m³-O as lead (Pb) 50 ug/m³-A as chromium (Cr) 0.1 mg/m³-O as chromium (Cr)

Overexposure to lead may cause adverse effects to the blood forming, nervous, urinary, reproductive systems including

Section X — Additional Information — Continued

embryotoxic effects. Symptoms may include loss of appetite, anemia, disturbance of sleep and fatigue. See OSHA Lead Standard 29CFR1910.1025. Is an IARC, NTP or OSHA Carcinogen.

Ingredient No.	Name	CAS No.	Vapor Pressure (mm Hg @ 20°C)	Exposure Limits
15.	Methylene chloride	00075-09-2	400	100 ppm-A 500 ppm-O

Contact may cause skin burns. Can be absorbed through the skin in harmful amounts. May cause an increase in carboxyhemoglobin levels which may result in a reduced level of oxygen in the blood. Heavy smokers and those with heart disease may experience increased risk of heart problems. Is an IARC, NTP or OSHA Carcinogen. Open flames or welding arcs can produce toxic decomposition products such as hydrogen chloride or phosgene.

16.	Non-hazardous polymer	None	None	None
17.	Non-hazardous organic pigment	None	None	None
18.	Titanium dioxide	13463-67-7		10 mg/m³-A

In a lifetime inhalation test, lung cancers were found in some rats exposed to 250 mg/m³ respirable titanium dust. Analysis of the titanium dioxide concentrations in the rat's lungs showed that the lung clearance mechanism was overwhelmed and that the results at the masive 250 mg/m³.

19.	Propane	74-98-6	760	1000 ppm-A
20.	Isobutane	75-28-5	760	None
21.	Zinc	7440-66-6	None	None
22.	Silicone	None	None	None
23.	Graphite	7782-42-5	None	10 mg/m³-A
24.	Butyl acetate	123-86-4	8	150 ppm-A 150 ppm-O
25.	Ethyl Ethoxy-propionate	00763-69-9	2	50 ppm-S
26.	Aluminum paste	7429-90-5	None	10 mg/m³-A as aluminum
27.	Propylene gylcol monomethyl ether acetate	108-65-6	3.8	100-A skin

May cause eye irritation with discomfort, tearing, or blurred vision. May cause moderate eye burning. Can be absorbed through the skin in harmful amounts.

Key to Exposure Limits:
A = ACGIH O = OSHA D = DuPont S = Supplier

Notice: The data in this Material Safety Data Sheet relate only to the specific materials designated herein and do not relate to their use in combination with any other material or in any process unless specifically stated.

Product Manager
Maintenance Finishes

MSDS NO. MF 10.0

DU PONT
REG. U.S. PAT. & TM. OFF.

MAINTENANCE FINISHES
November 18, 1985

MATERIAL SAFETY DATA SHEET

IMRON® POLYURETHANE ENAMELS AND PRIMERS

(USE FOR PRODUCTS STARTING WITH THE FOLLOWING PREFIXES: 62, 326, 333, 338, 364, 369, 826, 827, 1P-16P)

Section I

Manufacturer
E. I. du Pont de Nemours & Company, Inc.
Finishes & Fabricated Products Department
Wilmington, DE 19898
Telephone: Product information (800) 441-7515
Medical emergency (800) 441-3637
Transportation emergency (800) 424-9300
(CHEMTREC)

Product: Polyurethane Enamels and Primers
D.O.T. Hazard Class: Flammable Liquid
Paint UN 1263

Section II — Hazardous Ingredients

This section lists all Du Pont Maintenance Finishes products sold in this classification and the hazardous ingredients in each. For specific information regarding the hazard(s) associated with each ingredient, refer to Section X. If you have a Du Pont Maintenance Finishes Polyurethane enamel or primer not specifically designated below, check the label for the list of ingredients and then refer to Section X.

Product Code	Flash Point °F (Closed Cup)	Hazardous Ingredients
62-Y-001	<73	9, 10, 19, 20, 22, 26, 28, 29
326-Y-6990	<73	3, 4, 5, 8, 9, 10, 12, 13, 17, 18, 20, 21, 22, 27
326-Y-6991	<73	4, 5, 8, 9, 10, 12, 13, 17, 18, 20, 21, 22, 27
326-Y-12119	<73	3, 4, 5, 8, 9, 10, 13, 17, 18, 20, 22, 27
326-Y-12129	<73	3, 4, 5, 8, 9, 10, 13, 17, 18, 20, 22, 27
326-Y-12789	<73	4, 5, 8, 10, 13, 17, 22, 23, 27
326-Y-23309	<73	3, 4, 5, 8, 9, 10, 13, 17, 18, 20, 21, 22, 27
326-Y-23662	<73	3, 4, 5, 8, 9, 10, 13, 17, 18, 21, 22, 27
326-Y-23663	<73	3, 4, 5, 8, 9, 10, 13, 17, 18, 21, 22, 27
326-Y-23664	<73	3, 4, 5, 8, 9, 10, 13, 17, 18, 21, 22, 23
326-Y-23665	<73	3, 4, 5, 8, 9, 10, 13, 17, 18, 22, 23, 27
326-Y-23666	<73	3, 4, 5, 8, 9, 10, 13, 17, 18, 20, 22, 23, 24, 27.
326-Y-67632	<73	3, 4, 5, 8, 9, 10, 13, 17, 18, 20, 22, 27
326-Y-67633	<73	3, 4, 5, 8, 9, 10, 13, 17, 18, 20, 22, 27
326-Y-67635	<73	3, 4, 5, 8, 9, 10, 13, 17, 18, 20, 22, 27
326-Y-67636	<73	3, 4, 5, 8, 9, 10, 13, 17, 18, 20, 22, 24, 27
326-Y-67637	<73	3, 4, 5, 8, 9, 10, 13, 17, 18, 20, 22, 27
326-Y-67638	<73	3, 4, 5, 8, 9, 10, 13, 17, 18, 20, 22, 27
326-Y-67639	<73	3, 4, 5, 8, 9, 10, 13, 17, 18, 20, 22, 27
326-Y-67640	<73	3, 4, 5, 8, 9, 10, 13, 17, 18, 22
326-Y-67641	<73	3, 4, 5, 8, 9, 10, 13, 17, 18, 20, 22, 27
326-Y-67642	<73	3, 4, 5, 8, 9, 10, 13, 17, 18, 20, 22, 24, 27
326-Y-67645	<73	3, 4, 5, 8, 9, 10, 13, 17, 18, 20, 22, 27
326-Y-67646	<73	3, 4, 5, 8, 9, 10, 13, 17, 18, 20, 22, 27
326-Y-67672	<73	3, 4, 5, 8, 9, 10, 13, 17, 18, 20, 22, 27
326-Y-67684	<73	3, 4, 5, 8, 9, 10, 13, 17, 18, 20, 22, 27
326-Y-67685	<73	3, 4, 5, 8, 9, 10, 13, 17, 18, 20, 22, 27
326-Y-67717	<73	3, 4, 5, 8, 9, 10, 13, 17, 18, 20, 22, 27
326-Y-67804	<73	3, 4, 5, 8, 9, 10, 13, 17, 18, 22, 23, 27
326-Y-67846	<73	3, 4, 5, 8, 9, 10, 17, 18, 20, 22, 27
326-Y-67871	<73	3, 4, 5, 8, 9, 10, 13, 17, 18, 20, 22, 27
326-Y-67954	<73	3, 4, 5, 8, 9, 10, 13, 17, 18, 20, 22, 23, 27
326-Y-67975	<73	3, 4, 5, 8, 9, 10, 13, 17, 18, 20, 22, 27
326-Y-67996	<73	3, 4, 5, 8, 9, 10, 13, 17, 18, 20, 22, 27
326-Y-67999	<73	3, 4, 5, 8, 9, 10, 13, 17, 18, 20, 22, 27
326-Y-68000	<73	3, 4, 5, 8, 9, 10, 13, 17, 18, 22, 27
326-Y-68001	<73	3, 4, 5, 7, 8, 9, 17, 18, 22, 23, 27
326-Y-68002	<73	3, 4, 5, 8, 9, 10, 13, 17, 18, 20, 22, 27
326-Y-68003	<73	3, 4, 5, 7, 8, 9, 17, 18, 20, 22, 27
326-Y-68004	<73	3, 4, 5, 7, 8, 9, 17, 18, 19, 20, 22
326-Y-68020	<73	3, 4, 5, 8, 9, 10, 13, 17, 18, 20, 22, 27
326-Y-68075	<73	3, 4, 5, 8, 9, 10, 13, 17, 18, 20, 22, 27
326-Y-68088	<73	3, 4, 5, 8, 9, 10, 13, 17, 18, 20, 22, 27
326-Y-68131	<73	3, 4, 5, 8, 9, 10, 13, 17, 18, 20, 22, 23, 27
326-Y-68161	<73	3, 4, 5, 8, 9, 10, 13, 17, 18, 20, 22, 27
326-Y-68176	<73	3, 4, 5, 8, 9, 10, 13, 17, 18, 20, 21, 22, 27
326-Y-68205	<73	3, 4, 5, 8, 9, 10, 13, 17, 18, 21, 22, 27
326-Y-68212	<73	3, 4, 5, 8, 9, 10, 13, 17, 18, 22, 27
326-Y-68226	<73	3, 4, 5, 8, 9, 10, 13, 17, 18, 22, 23, 27
326-Y-68231	<73	3, 4, 5, 8, 9, 10, 13, 17, 18, 20, 22, 27
326-Y-68233	<73	3, 4, 5, 8, 9, 10, 13, 17, 18, 22, 23, 27
326-Y-68250	<73	3, 4, 5, 8, 9, 10, 13, 17, 18, 20, 22, 27
326-Y-68251	<73	3, 4, 5, 8, 9, 10, 13, 17, 18, 20, 22, 23
326-Y-68255	<73	3, 4, 5, 8, 9, 10, 13, 17, 18, 20, 22, 27
326-Y-68257	<73	3, 4, 5, 8, 9, 10, 13, 17, 18, 20, 22, 27
326-Y-68258	<73	3, 4, 5, 8, 9, 10, 13, 17, 18, 20, 22, 27
326-Y-68260	<73	3, 4, 5, 8, 9, 10, 13, 17, 18, 22, 27
326-Y-68263	<73	3, 4, 5, 8, 9, 10, 13, 17, 18, 20, 22, 27
326-Y-68272	<73	3, 4, 5, 8, 9, 10, 13, 17, 18, 22, 27
326-Y-68273	<73	3, 4, 5, 8, 9, 10, 13, 17, 18, 20, 22, 27
326-Y-68274	<73	3, 4, 5, 8, 9, 10, 13, 14, 17, 18, 22, 27
326-Y-68281	<73	3, 4, 5, 8, 9, 10, 13, 17, 18, 20, 22, 27
326-Y-68282	<73	3, 4, 5, 8, 9, 10, 13, 17, 18, 20, 22, 27
326-Y-68283	<73	3, 4, 5, 8, 9, 10, 13, 17, 18, 20, 22, 27
326-Y-68286	<73	3, 4, 5, 8, 9, 10, 13, 17, 18, 20, 22, 27
326-Y-68287	<73	3, 4, 5, 8, 9, 10, 13, 17, 18, 20, 22, 27
326-Y-68288	<73	3, 4, 5, 8, 9, 10, 13, 17, 18, 20, 22, 27
326-Y-68289	<73	3, 4, 5, 8, 9, 10, 13, 17, 18, 20, 22, 27
326-Y-68293	<73	3, 4, 5, 8, 9, 10, 12, 17, 18, 20, 22, 27
326-Y-68296	<73	3, 4, 5, 8, 9, 10, 13, 17, 18, 20, 22, 27
326-Y-68298	<73	3, 4, 5, 8, 9, 10, 13, 17, 18, 20, 23, 27
326-Y-68304	<73	3, 4, 5, 8, 9, 10, 13, 17, 18, 22, 23, 27
326-Y-68306	<73	4, 5, 8, 9, 10, 13, 17, 18, 21, 22, 27
326-Y-68307	<73	3, 4, 5, 8, 9, 10, 13, 17, 18, 22
326-Y-68346	<73	3, 4, 5, 8, 9, 10, 13, 17, 18, 20, 23, 27
326-Y-68347	<73	3, 4, 5, 8, 9, 10, 13, 17, 18, 20, 22, 27
326-Y-68349	<73	3, 4, 5, 8, 9, 10, 13, 17, 18, 20, 22, 27
326-Y-68350	<73	3, 4, 5, 8, 9, 10, 13, 17, 18, 20, 22, 27
326-Y-68351	<73	3, 4, 5, 8, 9, 10, 13, 17, 18, 20, 22, 27
326-Y-68354	<73	3, 4, 5, 8, 9, 10, 13, 17, 18, 20, 22, 23, 27
326-Y-68384	<73	3, 4, 5, 8, 9, 10, 13, 17, 18, 20, 22, 27
326-Y-68386	<73	3, 4, 5, 8, 9, 10, 13, 17, 18, 20, 22, 27

Section II — Hazardous Ingredients — Continued

Product Code	Flash Point °F (Closed Cup)	Hazardous Ingredients
326-Y-68387	< 73	3, 4, 5, 8, 9, 10, 13, 17, 18, 20, 22, 27
326-Y-68392	< 73	3, 4, 5, 8, 9, 10, 13, 17, 18, 20, 22, 27
326-Y-68393	< 73	3, 4, 5, 8, 9, 10, 13, 17, 18, 20, 22, 27
326-Y-68394	< 73	3, 4, 5, 8, 9, 10, 13, 17, 18, 20, 22, 27
326-Y-68395	< 73	3, 4, 5, 8, 9, 10, 13, 17, 18, 20, 22, 27
326-Y-68410	< 73	3, 4, 5, 8, 9, 10, 13, 17, 18, 21, 22, 27
326-Y-68411	< 73	3, 4, 5, 8, 9, 10, 13, 17, 18, 20, 22, 27
326-Y-68418	< 73	3, 4, 5, 8, 9, 10, 13, 17, 18, 22, 27
326-Y-68422	< 73	3, 4, 5, 8, 9, 10, 13, 17, 18, 20, 22, 27
326-Y-68426	< 73	3, 4, 5, 8, 9, 10, 13, 17, 18, 20, 22, 27
333-8234	< 73	4, 7, 9, 11, 12, 17, 19, 20, 22, 27
333-54701	< 73	4, 7, 9, 11, 12, 17, 19, 22, 23, 27
333-58209	< 73	4, 7, 9, 11, 12, 17, 19, 22, 23, 27
333-67632	< 73	4, 7, 9, 11
333-67632	< 73	12, 17, 19, 20, 22, 27
333-67640	< 73	4, 7, 9, 11, 12, 17, 19, 22
333-68442	< 73	4, 7, 9, 11, 12, 15, 17, 19, 20, 22, 23
333-68443	< 73	4, 7, 9, 11, 12, 17, 19, 22, 23
333-68443	< 73	4, 7, 9, 11, 12, 17, 19, 20, 22, 27
333-77257	< 73	4, 7, 9, 11, 12, 17, 19, 22, 23, 27
333-H-70478	< 73	4, 7, 9, 11, 12, 17, 19, 22, 23, 27
333-H-70495	< 73	4, 7, 9, 11, 12, 17, 19, 22, 23, 27
333-H-70535	< 73	4, 7, 9, 11, 12, 17, 19, 22, 23, 27
333-H-70542	< 73	4, 7, 9, 11, 12, 17, 19, 22, 23, 27
333-H-70545	< 73	4, 7, 9, 11
333-H-70545	< 73	12, 17, 19, 20, 22, 27
333-H-70563	< 73	4, 7, 9, 11, 12, 17, 19, 22, 27
333-H-72070	< 73	4, 7, 9, 11, 12, 17, 19, 20, 22, 27
333-H-72071	< 73	4, 7, 9, 11, 12, 17, 19, 20, 22, 23, 27
333-H-72085	< 73	4, 7, 9, 11, 12, 17, 19, 20, 22, 27
333-H-72101	< 73	4, 7, 9, 11, 12, 17, 19, 20, 22, 23, 27
338-Y-701	< 73	4, 5, 8, 10, 17, 20, 22, 27
338-Y-67632	< 73	4, 5, 8, 9, 10, 13, 17, 20, 22, 27
338-Y-67768	< 73	4, 5, 8, 10, 17, 20, 22, 27
338-Y-67769	< 100	4, 5, 8, 9, 10, 17, 22, 23, 27
338-Y-68357	< 73	3, 4, 5, 8, 9, 10, 17, 18, 20, 22, 23, 27
338-Y-68378	< 73	3, 4, 5, 8, 9, 10, 13, 14, 17, 18, 22, 27
338-Y-68379	< 73	4, 5, 8, 9, 10, 17, 20, 22, 27
338-Y-68380	< 73	4, 5, 8, 10, 17, 20, 22, 27
338-Y-68382	< 73	4, 5, 8, 9, 10, 17, 20, 22, 27
338-Y-68405	< 73	4, 5, 8, 10, 17, 20, 22, 27
338-Y-68406	< 73	4, 5, 8, 10, 17, 20, 22, 27
338-Y-68407	< 73	4, 5, 8, 10, 17, 20, 21, 22, 27
338-Y-68408	< 73	4, 5, 8, 10, 17, 20, 21, 22, 27
338-Y-68423	< 73	4, 5, 8, 9, 10, 17, 20, 22, 27
338-Y-68427	< 73	4, 5, 8, 10, 17, 20, 22, 27
369-67632	< 73	4, 5, 8, 9, 10, 12, 13, 17, 20, 22, 26, 27
369-67633	< 73	4, 5, 8, 9, 10, 13, 17, 20, 22, 26, 27
369-67637	< 73	4, 5, 8, 9, 10, 12, 13, 17, 20, 22, 26, 27
369-67640	< 73	4, 5, 8, 9, 10, 12, 13, 17, 22, 26
369-67641	< 73	4, 5, 8, 9, 10, 12, 13, 17, 20, 22, 26, 27
369-68154	< 73	4, 5, 8, 9, 10, 11, 12, 17, 20, 22, 26, 27
369-68230	< 73	4, 5, 8, 9, 10, 12, 13, 17, 20, 22, 26, 27
369-68264	< 73	4, 5, 8, 9, 10, 12, 13, 17, 22, 25
826-H-67284	< 73	5, 9, 10, 12, 17, 20, 22, 23, 27
826-H-67313	< 73	5, 9, 10, 12, 15, 17, 20, 22, 23
826-Y-373	< 73	5, 9, 10, 12, 17, 21, 22, 27
826-Y-508	< 73	5, 9, 10, 12, 17, 20, 22, 27
826-Y-660	< 73	5, 9, 10, 12, 17, 21, 22, 23
826-Y-6334	< 73	5, 9, 10, 12, 17, 20, 22, 27
826-Y-8247	< 73	5, 9, 10, 12, 17, 19, 20, 22, 27
826-Y-AK082	< 73	5, 9, 10, 12, 17, 21, 22, 27
826-Y-21667	< 73	5, 9, 10, 12, 17, 20, 22, 27
826-Y-24160	< 73	5, 9, 10, 12, 17, 22, 23, 27
826-Y-54701	< 73	5, 9, 10, 12, 17, 20, 21, 22, 27
826-Y-67606	< 73	5, 9, 10, 12, 22
826-Y-67651	< 73	5, 9, 10, 12, 17, 21, 22, 27
826-Y-67683	< 73	5, 9, 10, 12, 17, 20, 22, 27
826-Y-67685	< 73	5, 9, 10, 12, 17, 20, 22, 27
826-Y-67750	< 73	5, 9, 10, 12, 17, 21, 22, 27
826-Y-67768	< 73	5, 9, 10, 12, 17, 20, 22, 27
826-Y-67769	< 73	5, 9, 10, 12, 17, 22, 23, 27
826-Y-67787	< 73	5, 9, 10, 12, 17, 22, 23, 27
826-Y-68077	< 73	5, 9, 10, 12, 17, 22, 23, 27
826-Y-68193	< 73	5, 9, 10, 12, 17, 20, 22, 23, 27
826-Y-68194	< 73	5, 9, 10, 12, 17, 20, 22, 23, 27
826-Y-68195	< 73	5, 9, 10, 12, 17, 20, 22, 23, 27
826-Y-68197	< 73	5, 9, 10, 12, 17, 22, 23, 27
826-Y-68261	< 73	5, 9, 10, 12, 17, 22, 23, 27
826-Y-68294	< 73	5, 9, 10, 12, 17, 22, 23, 27
826-Y-68402	< 73	5, 9, 10, 12, 17, 21, 22, 23, 27
826-Y-71537	< 73	5, 9, 10, 12, 17, 20, 22, 27
826-Y-78387	< 73	5, 9, 10, 12, 17, 22, 27
826-Y-92443	< 73	5, 9, 10, 12, 17, 22, 23, 27
826-Y-93881	< 73	5, 9, 10, 12, 17, 20, 22, 27
826-Y-95741	< 73	5, 9, 10, 12, 17, 22, 23, 27
826-Y-98156	< 73	5, 9, 10, 12, 17, 21, 22, 23, 27
827-H-67343	< 73	4, 5, 9, 10, 12, 13, 16, 17, 22, 27
827-Y-44400	< 73	5, 9, 10, 12, 13, 16, 17, 22, 27
1P	< 73	1, 2, 6, 7, 22, 27
2P	< 100	1, 2, 6, 7, 19, 22
3P	< 100	1, 2, 7, 10, 19, 22
4P	< 100	1, 6, 7, 12, 19, 20, 22
5P	< 100	1, 2, 6, 7, 12, 19, 22, 23
6P	< 100	1, 2, 7, 12, 17, 19, 22, 23
7P	< 73	1, 2, 5, 6, 7, 20, 22, 23
8P	< 73	1, 2, 5, 6, 7, 21, 22
9P	< 100	1, 2, 7, 12, 19, 20, 22
10P	< 73	1, 2, 7, 12, 19, 22, 23
11P	< 100	1, 2, 6, 7, 12, 19, 22, 23
12P	< 100	1, 2, 6, 7, 12, 19, 22, 23
13P	< 73	1, 2, 5, 6, 7, 12, 19, 21, 22, 25
14P	< 73	1, 2, 5, 6, 7, 12, 19, 21, 22, 25
15P	< 73	3, 4, 5, 8, 10, 11, 12, 13, 17, 18, 22
16P	< 73	3, 4, 5, 8, 10, 11, 12, 18, 22

Section III — Physical Data

Evaporation rate: Slower than ether
Solubility in water: Moderate to appreciable, depending on color
Approximate boiling range: 160°F-400°F
Vapor density: Heavier than air
Percent volatile by volume: 62% typical
Gallon weight: 11 lbs. typical

Section IV — Fire and Explosion Data

Approximate Flammable Limits: 1-14%
Extinguishing Media: Foam, carbon dioxide, dry chemical
Special fire fighting procedures: Full protective equipment, including self-contained breathing apparatus, is recommended. Water from fog nozzles may be used to cool closed containers to prevent pressure build up.

Section IV — Fire and Explosion Data — Continued

Unusual fire and explosion hazards: When heated above the flash point, emits flammable vapors which, when mixed with air, can burn or be explosive. Fine mists or sprays may be flammable at temperatures below the flash point.

Section V — Health Hazard Data

Ingestion: Gastro-intestinal distress.
In the unlikely event of ingestion, call a physician immediately and have names of ingredients available.
Inhalation: Overexposure may cause nose and throat irritation. May cause central nervous system effects such as dizziness, headache, nausea, staggering gait, confusion and unconsciousness. Reports have associated repeated and prolonged overexposure to solvents with permanent brain and nervous system damage.
This product cannot be applied satisfactorily without the addition of an activator which contains an isocyanate. (See appropriate MSDS for recommended activator). Exposure to the isocyanate may cause permanent lung sensitization which produces asthma-like reactions including shortness of breath, wheezing, and coughing. These effects may be delayed for several hours after exposure. Individuals with lung or breathing problems or prior reactions to isocyanates must not be exposed to the vapors or spray mist.
If affected by inhalation of vapor or spray mist, remove to fresh air. If breathing difficulty persists, or occurs later, consult a physician.
Skin or eye contact: May cause eye irritation with discomfort, tearing or blurred vision. Propylene glycol methyl ether acetate can be absorbed through the skin in harmful amounts. Repeated or prolonged liquid contact may cause skin irritation with discomfort and dermatitis. After activation with an isocyanate, may also cause allergic skin reactions.
In case of eye contact, immediately flush with plenty of water at least 15 minutes; call a physician.
In case of skin contact, wash with soap and water. If irritation occurs, contact a physician.

Section VI — Reactivity Data

Stability: Stable
Incompatibility (materials to avoid): none reasonably foreseeable.
Hazardous decomposition products: CO, CO_2, smoke, oxides of heavy metals reported in Section X.
Hazardous polymerization: Will not occur.

Section VII — Spill or Leak Procedures

Steps to be taken in case material is released or spilled: Ventilate area. Remove sources of ignition. Prevent skin contact and breathing of vapor. Wear a properly fitted vapor/particulate respirator (NIOSH/MSHA TC-23C for paints, lacquers and enamels), eye protection, gloves and protective clothing. Confine and remove with inert absorbent. If the material has been activated with an isocyanate, wear a positive pressure supplied air respirator (NIOSH/MSHA TC-19C if possible, otherwise TC-23C).

Deactivate isocyanate containing spills with:
20% Surfactant (Tergitol TMN-10 or equivalent)
80% Water
or
0-10% Ammonia
2-5% Detergent
Balance Water

Do not seal waste containers for 48 hours to allow CO_2 to vent.
Waste disposal method: Do not allow material to contaminate ground water systems. Incinerate absorbed material in accordance with federal, state and local requirements. Do not incinerate in closed containers.

Section VIII — Special Protection Information

Respiratory: Do not breathe vapors or mists. Wear a respirator at all times when handling isocyanate activated materials. For spray painting, a positive pressure supplied air respirator (NIOSH/MSHA TC-19C) is required unless monitoring data confirms exposures to isocyanates will be below NIOSH recommended limits and exposures to solvents will be below 10 times the TLV. If exposures are below the above outlined limits, then a half mask, negative pressure vapor/particulate respirator approved by NIOSH/MSHA (TC-23C) for paints, lacquers and enamels may be substituted. For mixing and brush or roll application, the positive pressure, supplied air respirator is recommended, but the 1/2 mask, negative pressure vapor/particulate respirator may be used. In no cases can the 1/2 mask respirator be used unless the wearer has been properly fit tested for the respirator. Individuals with a history of lung or breathing problems or prior reaction to isocyanates should not use or be exposed to this product when activated. Do not permit anyone without protection in the painting area.
Ventilation: Provide sufficient ventilation in volume and pattern to keep contaminants below applicable OSHA requirements.
Protective clothing: Wear coveralls and impermeable gloves (e.g. neoprene). Do not reuse coveralls while solvent odor is retained in them.
Eye protection: Goggles are preferred to prevent eye irritation. If safety glasses are substituted, include splash guards or side shields.
Protective creams: May be used for ease of clean up, not for protection.

Seciton IX — Special Precautions

Precautions to be taken in handling and storing. Observe label precautions. Keep away from heat, sparks and flame. Close container after each use. Ground containers when pouring. Wash thoroughly after handling and before eating and smoking. Do not store above 120°F.
Other precautions: Do not sand, flame cut, braze or weld dry coating without NIOSH/MSHA approved respirator or appropriate ventilation.

Section X — Additional Information

Following is a summary of the ingredients listed in Section II and their known hazards.

Section X — Additional Information — Continued

Ingredient No.	Name	CAS No.	Vapor Pressure (mm Hg @ 20°C)	Exposure Limits
1.	Butyl acetate	123-86-4	8	150 ppm-A 150 ppm-0

Extremely high concentrations have caused blood changes nd weakness in laboratory animals.

2.	n-Butyl alcohol	71-36-3	4	50 ppm-A Ceiling 100 ppm-0 25 ppm-D 50 ppm-D

lay cause moderate eye burning.

3.	Acetone	67-64-1	186	750 ppm-A 1000 ppm-0
4.	Methyl ethyl ketone	78-93-3	95	200 ppm-A 200 ppm-0

igh concentrations have caused embryotoxic effects in l boratory animals. Methyl ethyl ketone has been c emonstrated to potentiate (i.e., shorten the time of onset) the peripheral neuropathy caused by either n-Hexane or Methyl n-butyl ketone. MEK by itself has not been demonstrated to cause peripheral neuropathy.

5.	Toluene	108-88-3	29	100 ppm-A 200 pmm-0

Tests in animals have shown liver, bone marrow and kidney effects.

6.	Isopropyl alcohol	67-63-0	44	400 ppm-A 400 ppm-0

May cause eye irritation with discomfort, tearing, or blurred vision. Ingestion studies on laboratory animals showed that very high oral doses caused increased liver and kidney weights. High oral doses have caused anemia in laboratory animals.

7.	2-Ethoxy-ethyl acetate	111-15-9	1.7	5 ppm-A skin 200 ppm-0 skin 10 ppm-D skin

Repeated exposure to high concentrations may cause injury to the bone marrow and blood cells, kidney, liver and testes. Exposure of female laboratory animals has resulted in increased fetal mortality, delayed fetal development and birth defects.

8.	Mixed dibasic esters	14		10 mg/m³-D

May cause eye irritation with discomfort, tearing, or blurred vision. High airborne levels in rats have shown mild injury to the olfactory region of the nose.

9.	Ethyl acetate	141-78-6	74	400 ppm-A 400 ppm-0

Prolonged and repeated high exposures of laboratory animals resulted in secondary anemia with an increase in white blood cells; fatty degeneration, cloudy swelling and an excess of blood in various organs.

10.	Propylene glycol monomethyl ether acetate	108-65-6	3.8	None

May cause eye irritation with discomfort, tearing, or blurred vision. May cause moderate eye burning. Can be absorbed through the skin in harmful amounts.

11.	Ethylene glycol monobutyl ether acetate	112-07-2	0.3	25 ppm-S 20 ppm-D skin

Can be absorbed through the skin in harmful amounts. May destroy red bood cells. May cause abnormal kidney function.

12.	Xylene	1330-20-7	25	100 ppm-A 100 ppm-0

High concentrations have caused embryotoxic effects in laboratory animals. Recurrent overexposure may result in liver and kidney injury. Can be absorbed through the skin in harmful amounts.

13.	Aromatic hydrocarbon	64742-95-6	10	50 ppm-D
14.	Cobalt aluminate	68186-86-7	None	None

The components of this pigment are combined chemically into a uniform substance which does not necessarily reflect the properties of the component metals or oxides.

15.	Chrome Antimony Titanate; CI Brown 24	68186-90-3	None	0.5 mg/m³-A as antimony (Sb) 0.5 mg/m³-0, as antimony (Sb)

Repeated and prolonged overexposure may lead to chronic lung disease. Antimony and nickel are incorporated into the crystal structure of titanium dioxide. As such they are chemically and biologically inert.

16.	Aluminum	7429-90-5	None	1 mg/m³-A
17.	Amorphous silica	7631-86-9		1 mg/m³-A 1.5 mg/m³-0 6 mg/m³-D 3 mg/m³-S Respirable
18.	Cellulose acetate butyrate	9004-36-8	None	None
19.	Carbon black	1333-86-4	None	3.5 mg/m³-A 3.5 mg/m³-0
20.	Iron oxide	1309-37-1	None	
21.	Lead chromate	18454-12-1	None	150 ug/m³-A, as lead (Pb) 50 ug/m³-0, as lead (Pb) 50 ug/m³-A, as chromium (Cr) 0.1 mg/m³-0, as chromium (Cr)

Overexposure to lead may cause adverse effects to the blood forming, nervous, urinary, reproductive systems including embryotoxic effects. Symptoms may include loss of appetite, anemia, disturbance of sleep and fatigue. See OSHA lead standard 29 CFR1910.1025. Is an IARC, NTP or OSHA carcinogen.

22.	Non-hazardous polymer	None	None	None
23.	Non-hazardous organic pigment	None	None	None

Section X — Additional Information — Continued

Ingredient No.	Name	CAS No.	Vapor Pressure (mm Hg @ 20°C)	Exposure Limits
24.	Nickel, Antimony, Titanium Yellow Pigment	8007-18-9	None	0.5 mg/m³-A, as antimony (Sb) 0.5 mg/m³-O, as antimony (Sb)

Antimony and Nickel are incorporated into the crystal structure of titanium dioxide. As such they are chemically and biologically inert.

25.	Antimony Trioxide	1309-64-4	None	0.5 mg/m³-A as antimony (Sb) 0.5 mg/m³-O, as antimony (Sb) 0.2 mg/m³-D, as antimony (Sb)

Excessive exposures to antimony may produce gastrointestinal upset, nervous complaints, inflamation of the mucous membranes of the nose and throat, metallic taste and stomatitis. May cause skin irritations. Cancer hazard based on tests with laboratory animals. Overexposure may create cancer risk.

26.	Hydrous Magnesium silicate	14807-96-6	None	2 mg/m³-A, respirable, no asbestos 5 mg/m³-O Asbestos free 2 mg/m³-D

Repeated and prolonged overexposure to talc may lead to typical X ray changes and chronic lung disease.

27.	Titanium dioxide	13463-67-7	None	10 mg/m³-A, as titanium (Ti)

In a lifetime inhalation test, lung cancers were found in some rats exposed to 250 mg/m³ respirable titanium dust. Analysis of the titanium dioxide concentrations in the rat's lungs showed that the lung clearance mechanism was overwhelmed and that the results at the massive 250 mg/m³ level are not relevant to the workspace.

28.	Barium Lanolate	61788-47-4	None	0.5 mg/m³-A as barium (Ba) 0.5 mg/m³-O as barium (Ba)

May cause central nervous system effects such as muscular weakness and loss of coordination. May cause anemia. Repeated and prolonged overexposure may lead to chronic lung disease.

29.	Zinc Oxide	1314-13-2	None	10 mg/m³-A

Key: A = ACGIH O = OSHA D = Du Pont S = Supplier

Notice: The data in this Material Safety Data Sheet relate only to the specific materials designated herein and do not relate to their use in combination with any other material or in any process unless specifically stated.

Product Manager
Maintenance Finishes

MSDS NO. MF 20.0

DUPONT

MATERIAL SAFETY DATA SHEET

MAINTENANCE FINISHES
November 18, 1985

URETHANE ACTIVATORS AND CLEARS

Section I

Manufacturer
E. I. du Pont de Nemours & Company, Inc.
Finishes & Fabricated Products Department
Wilmington, DE 19898
Telephone: Product Information (800) 441-7515
Medical emergency (800) 441-3637
Transportation emergency (800) 424-9300
(CHEMTREC)

Product: Imron® Polyurethane Activators and Clears

Section II — Hazardous Ingredient Listing

This section lists all Du Pont Maintenance and Transportation Finishes products sold in this classification and the hazardous ingredients in each. For specific information regarding the hazard(s) associated with each ingredient, refer to Section X. If you have a Du Pont Maintenance and Transportation Finishes urethane activator or clear not specifically designated below, check the label for the list of ingredients and then refer to Section X.

Product Code	Flash Point °F (Closed Cup)	Hazardous Ingredients
RK-808	< 100	7, 9, 10, 11, 13
RK-5406	< 100	7, 9, 10, 11, 13
VG-1450	< 100	3, 4, 6, 8, 10, 12
VG-6005	> 100	3, 4, 10, 12
VG-Y-250	59	6, 7, 9, 11, 14
VG-Y-511	< 73	3, 4, 5, 6, 7, 9, 10, 12
VG-Y-518	> 100	3, 4, 7, 10, 12
VG-Y-710	> 100	3, 4, 7, 10, 12
VG-Y-719	< 73	3, 4, 6, 9, 10, 12
192S	< 73	3, 4, 6, 10, 12
792S	< 73	3, 4, 6, 10, 12

Section III — Physical Data

Evaporation rate: Slower than ether
Solubility in water: Moderate to appreciable
Approximate boiling range: 170°F-400°F
Vapor density: Heavier than air
Percent volatile by volume: 62% typical
Gallon weight: 8 lbs. typical

Section IV — Fire & Explosion Data

Approximate flammable limits: 1-15%
Extinguishing media: Foam, carbon dioxide, dry chemical.
Special fire fighting procedures: Full protective equipment, including self-contained breathing apparatus, is recommended. Water from fog nozzles may be used to cool closed containers to prevent pressure build up.
Unusual fire and explosion hazards: When heated above the flash point, emits flammable vapors which, when mixed with air, can burn or be explosive. Fine mists or sprays may be flammable at temperatures below the flash point.

Section V — Health Hazard Data

Ingestion: Gastro-intestinal distress.
In the unlikely event of ingestion, call a physician immediately and have names of ingredients available.
Inhalation: Exposure to isocyanates may cause respiratory sensitization. This effect may be permanent. Symptoms include an asthma-like reaction with shortness of breath, wheezing or coughing. This effect may be delayed for several hours after exposure. Individuals with lung or breathing problems or prior reaction to isocyanates must not be exposed to vapors or spray mist of this product. Overexposure to solvents may cause nose and throat irritation. May cause central nervous system effects such as headache, dizziness, nausea, and loss of consciousness. Reports have associated repeated and prolonged overexposure to solvents with permanent brain and nervous system damage.
If affected by inhalation of vapor or spray mist, remove to fresh air. If not breathing, give artificial respiration, preferably mouth to mouth. If breathing difficulty persists, or occurs later, consult a physician.
Skin or eye contact: May cause irritation or burning of the eyes. Repeated or prolonged liquid contact may cause skin irritation with discomfort and dermatitis. May also cause allergic skin reactions.
In case of eye contact, immediately flush with plenty of water for at least 15 minutes; call a physician.
In case of skin contact, wash with soap and water. If irritation occurs, contact a physician.

Section VI — Reactivity Data

Stability: Stable in sealed containers. Do not mix enamel and activator until ready to use.
Incompatibility (materials to avoid): Water, alcohols, amines.
Hazardous decomposition products: CO, CO_2, smoke.
Hazardous polymerization: Will not occur.

Section VII — Spill or Leak Procedures

Steps to be taken in case material is released or spilled: Ventilate area. Remove sources of ignition. Prevent skin contact and breathing of vapor. Wear a positive pressure supplied air respirator (NIOSH/MSHA TC-19C if possible, otherwise NIOSH/MSHA TC-23C), eye protection, impermeable gloves and protective clothing. Confine and remove with inert absorbent.
Deactivate isocyanate containing spills with:
20% Surfactant (Tergitol TMN-10 or equivalent)
80% Water
or
0-10% Ammonia
2-5% Detergent
Balance Water
Pour decontamination solution over the spill and allow to sit 10 minutes, minimum.
Do not seal waste containers for 48 hours to allow CO_2 to vent.
Waste Disposal Method: Do not allow material to contaminate ground water systems. Incinerate absorbed material in accordance with federal, state and local requirements. Do not incinerate in closed containers.

Section VIII — Special Protection Information

Respiratory: Do not breathe vapors or mists. Wear a respirator at all times when handling isocyanates or isocyanate activated materials. For spray painting, a supplied air respirator (NIOSH/MSHA positive pressure TC-19C) is required unless monitoring data confirms exposures to isocyanates will be below NIOSH recommended limits and exposures to solvents will be below 10 times the TLV. If exposures are below the above outlined limits, then a half-mask, negative pressure vapor/particulate respirator (NIOSH/MSHA TC-23C for paints, lacquers and enamels) may be substituted. For mixing and brush or roll application, the positive pressure, supplied air respirator is recommended, but the 1/2 mask, negative pressure vapor/particulate respirator may be used. In no cases can the 1/2 mask respirator be used unless the wearer has been properly fit tested for the respirator. Follow respirator manufacturer's directions for use. Individuals with a history of lung or breathing problems or prior reaction to isocyanates should not use or be exposed to this product when activated. Do not permit anyone without protection in the painting area.

Ventilation: Provide sufficient ventilation in volume and pattern to keep contaminants below applicable OSHA requirements.

Protective clothing: Wear coveralls and impermeable (e.g. neoprene) gloves. Do not reuse coveralls while solvent odor is retained in them.

Eye protection: Goggles are preferred to prevent eye irritation. If safety glasses are substituted, include splash guards or side shields.

Protective creams: May be used for ease of clean up, not for protection.

Section IX — Special Precautions

Precautions to be taken in handling and storing: Observe label precautions. Keep away from heat, sparks and flame. Close container after each use. Ground containers when pouring. Wash thoroughly after handling and before eating and smoking. Do not store above 120°F.

Other precautions: Do not sand, flame cut, braze or weld dry coating without NIOSH/MSHA approved respirator or appropriate ventilation.

Section X — Additional Information

Ingredient No.	Name	CAS No.	Vapor Pressure (mm Hg @ 20°C)	Exposure Limits
3.	1, 6 Hexamethylene diisocyanate	822-06-0		5 ppb-D 20 ppb-S ceiling

May cause upper respiratory and/or lung irritation with cough, difficult breathing, or shortness of breath. This condition may be permanent. Overexposure may cause asthma-like reactions with shortness of breath, wheezing, cough or lung sensitization. This effect may be delayed for several hours after exposure. Prolonged skin contact may cause chemical burns. Liquid splashes in the eye may result in chemical burns. Individuals with preexisting lung disease, asthma or breathing difficulties may have increased susceptibility to the toxicity of excessive exposures.

4.	Butyl acetate	123-86-4	8	150 ppm-A 150 ppm-O

Extremely high concentrations have caused blood changes and weakness in laboratory animals.

5.	Toluene	108-88-3	29	100 ppm-A 200 ppm-O

Tests in animals have shown liver, bone marrow and kidney effects.

6.	Ethyl acetate	141-78-6	74	400 ppm-A 400 ppm-O

Prolonged and repeated high exposures of laboratory animals resulted in secondary anemia with an increase in white blood cells; fatty degeneration, cloudy swelling and an excess of blood in various organs.

7.	Propylene glycol monomethyl ether acetate	108-65-6	3.8	None

May cause eye irritation with discomfort, tearing, or blurred vision. May cause moderate eye burning. Can be absorbed through the skin in harmful amounts.

8.	2-Butoxyethyl acetate	112-07-2	0.3	25 ppm-S skin 20 ppm-D skin

Can be absorbed through the skin in harmful amounts. May destroy red blood cells. May cause abnormal kidney function.

9.	Xylene	1330-20-7	25	100 ppm-A 100 ppm-O

High concentrations have caused embryotoxic effects in laboratory animals. Recurrent overexposure may result in liver and kidney injury. Can be absorbed through the skin in harmful amounts.

10.	Aromatic hydrocarbon	64742-95-6	10	50 ppm-D
11.	Toluene diisocyanate	584-84-9	10	5 ppm-A 20 ppb-O ceiling

May cause upper respiratory and/or lung irritation with cough, difficult breathing, or shortness of breath. This condition may be permanent. Overexposure may cause asthma-like reactions with shortness of breath, wheezing, cough or lung sensitization. This effect may be delayed for several hours after exposure. Prolonged skin contact may cause chemical burns. Liquid splashes in the eye may result in chemical burns. Individuals with preexisting lung disease, asthma or breathing difficulties may have increased susceptibility to the toxicity of excessive exposures. One study of workers in a TDI manufacturing plant has reported that certain workers exposed to higher levels of TDI had larger declines in lung function (over the five year period of study) than other worker groups in the study experienced excursions above the 0.02ppm level.

Section X — Additional Information — Continued

Ingredient No.	Name	CAS No.	Vapor Pressure (mm Hg @ 20°C)	Exposure Limits
12.	Aliphatic polyisocyanate	28182-81-2	None	1 mg/m³ S

May cause allergic skin rash, itching, swelling. Overexposure may cause asthma-like reactions with shortness of breath, wheezing, cough or lung sensitization. This effect may be delayed for several hours after exposure. Individuals with preexisting lung disease, asthma or breathing difficulties may have increased susceptibility to the toxicity of excessive exposures.

13.	Non-hazardous polymer	None	None	None
14.	Aromatic polyisocyanate	584-84-9	None	None

May cause allergic skin rash, itching, swelling. Overexposure may cause asthma-like reactions with shortness of breath, wheezing, cough or lung sensitization. This effect may be delayed for several hours after exposure. Individuals with preexisting lung disease, asthma or breathing difficulties may have increased susceptibility to the toxicity of excessive exposures.

Exposure Limit Key:
A = ACGIH D = DU PONT O = OSHA S = SUPPLIER

Notice: The data in this Material Safety Data Sheet relate only to the specific materials designated herein and do not relate to their use in combination with any other material or in any process unless specifically stated.

Product Manager
Maintenance Finishes

MSDS NO. MF 30.0

MATERIAL SAFETY DATA SHEET

MAINTENANCE FINISHES
November 18, 1985

YELLOW PRIMER

(USE FOR PRODUCTS STARTING WITH THE FOLLOWING PREFIXES: 28, 29, 63, 65, 66, 67, 75, 80, 81, 88, 89, 93, 96, 112, 113, 166, 181, 183, 210, 347, 354, 360, 373, 481, 523, 529, 612, 621, 631, 639, 657, 681, 802, 818, 823, 825, 840, 881, 909, 917, 918, 929, 934, 939, 943, 951, 964, 994, 995, 1065, 1081, 1657, 1681, VF, VG (NON-ISOCYANATE), VQ, 704C.)

Section I

Manufacturer
E. I. du Pont de Nemours & Company, Inc.
Finishes & Fabricated Products Department
Wilmington, DE 19898
Telephone: Product information (800) 441-7515
Medical emergency (800) 441-3637
Transportation emergency (800) 424-9300
(CHEMTREC)

Product: Solvent based paints (other than Isocyanates)

Section II — Hazardous Ingredient Listing

This section lists all coatings sold in this classification and the hazardous ingredients in each. For specific information regarding the hazard(s) associated with each ingredient, refer to Section X. If you have a Du Pont Maintenance Finishes solvent based (non isocyanate) material not specifically designated below, check the label for the list of ingredients and then refer to Section X.

Product Code	Flash Point °F (Closed Cup)	Hazardous Ingredients
704C	> 100	105, 113
RK-5801	> 100	13, 29, 59, 105
RK-Y-5024	< 73	27, 105, 112
VF-724	< 69	17, 25, 83, 93
VF-730	< 73	25, 27, 35, 51, 57, 59, 104, 105, 116
VF-Y-632	< 73	25, 27, 35, 47, 51, 57, 104, 105, 116
VF-Y-703	< 73	25, 27, 35, 47, 51, 57, 104, 105, 116
VG-Y-8339	< 73	17, 20, 24, 25, 27, 35, 57, 105
VG-Y-8499	< 73	27, 105
VG-Y-8522	< 73	27, 105
VQ-Y-5465	> 100	18, 109, 113
28-616	> 100	1, 25, 47, 51, 60, 105, 109, 113, 116, 117, 119
28-650	> 100	1, 25, 51, 57, 60, 85, 104, 105, 109, 113, 117
28-5181	< 100	1, 25, 51, 85, 88, 104, 105, 109, 112, 113, 116, 119
28-8200	< 100	1, 25, 51, 104, 105, 109, 112, 133, 116, 117, 119
28-Y-5049	> 100	1, 25, 57, 104, 105, 109, 113, 116, 117
28-Y-5061	> 100	1, 25, 51, 57, 59, 88, 105, 113, 117
28-Y-5101	> 100	1, 25, 51, 57, 59, 88, 105, 113, 117
28-Y-5159	86	1, 17, 25, 51, 88, 104, 105, 113, 117
28-Y-13035	> 100	1, 17, 25, 51, 88, 95, 104, 105, 113, 117
28-Y-13036	> 100	1, 25, 40, 57, 88, 95, 105, 109, 113, 117
28-Y-13042	> 100	1, 25, 57, 59, 85, 88, 95, 104, 105, 109, 113, 117
29-625	> 100	51, 60, 105, 117
29-632	> 100	59, 60, 88, 105
63-1696	< 73	1, 57, 59, 84, 95, 105, 109, 113, 114, 116, 117, 119
63-1697	< 73	1, 57, 59, 84, 95, 105, 109, 113, 114, 116, 119
63-1858	< 73	1, 17, 57, 59, 84, 88, 95, 105, 109, 113, 114, 116, 117, 119
63-Y-008	< 73	1, 17, 25, 27, 47, 60, 88, 95, 105, 109, 111, 112, 113, 114, 116, 118, 119
65-3010	< 73	57, 59, 77, 84, 105, 109, 111, 113, 116, 117, 119
65-3012	< 73	25, 27, 57, 59, 77, 84, 95, 105, 109, 111, 112, 113, 116, 119
65-3055	< 100	25, 27, 57, 59, 77, 84, 88, 105, 109, 111, 112, 113, 116, 117, 119
66-Y-315	< 100	54, 59, 104, 105, 111, 113, 114, 117, 119
67-800	> 100	25, 42, 47, 51, 59, 73, 95, 105, 111, 113
67-Y-746	115	18, 25, 95, 105, 109, 111, 113, 116, 118
67-Y-773	< 100	25, 27, 51, 95, 105, 109, 112, 113, 116, 118
67-Y-789	< 73	20, 21, 37, 45, 57, 59, 79, 95, 104, 105, 109, 111, 113, 114, 118
67-Y-813	< 73	1, 59, 73, 95, 105, 109, 113, 114, 116
67-Y-834	< 100	18, 25, 66, 95, 105, 109, 111, 113, 116, 119
75-Y-65083	< 100	54, 57, 59, 88, 104, 105, 113, 114, 117, 119
80-Y-495	< 100	1, 51, 57, 59, 88, 95, 105, 113, 114, 117, 119
81-5090	< 100	1, 54, 57, 59, 88, 95, 104, 105, 111, 113, 114, 117, 119
81-Y-688	< 73	1, 17, 25, 27, 79, 85, 88, 104, 105, 109, 112, 113, 114, 116
81-Y-5041	< 73	1, 17, 25, 27, 40, 45, 57, 59, 88, 105, 106, 109, 112, 113, 114, 117
81-Y-5203	< 100	1, 25, 51, 57, 59, 88, 95, 105, 106, 113, 114, 117, 119
81-Y-5252	< 100	1, 17, 25, 51, 88, 95, 104, 105, 106, 113, 117
81-Y-5254	< 100	1, 25, 51, 100, 101, 104, 105, 113
81-Y-8688	< 100	1, 17, 25, 51, 88, 95, 104, 105, 106, 113, 114, 117
81-Y-24785	< 73	1, 17, 25, 27, 45, 57, 59, 76, 88, 105, 106, 109, 112, 113, 114, 117
81-Y-24910	< 100	1, 17, 25, 51, 57, 88, 95, 104, 105, 106, 113, 114, 117
81-Y-26596	< 73	1, 17, 25, 27, 40, 45, 59, 100, 101, 105, 109, 112, 113, 114, 117
81-Y-26685	< 73	1, 17, 25, 27, 40, 45, 59, 88, 95, 105, 109, 112, 113, 114, 117
81-Y-27922	< 73	1, 17, 25, 51, 88, 95, 104, 105, 113, 114, 117
81-Y-28281	< 100	1, 17, 25, 27, 47, 57, 59, 79, 85, 88, 95, 104, 105, 106, 109, 112, 113, 114, 116, 117
81-Y-43094	< 100	1, 17, 25, 88, 105, 106, 109, 113, 114, 117

Section II — Hazardous Ingredients — Continued

Product Code	Flash Point °F (Closed Cup)	Hazardous Ingredients
81-Y-51552	<73	1, 17, 25, 27, 59, 76, 88, 101, 105, 109, 112, 113, 114, 117
88-762	<100	25, 27, 76, 88, 105, 109, 112, 113, 114
88-28034	<100	1, 17, 25, 27, 57, 59, 60, 88, 95, 105, 109, 112, 113, 114, 117
88-H-72177	<100	1, 17, 25, 51, 57, 59, 88, 104, 105, 106, 112, 113, 117
88-Y-8006	<100	25, 51, 59, 88, 104, 105, 109, 113, 114
89-Y-5202	<73	25, 27, 51, 59, 79, 95, 104, 105, 111, 112, 113, 114, 116, 118
89-Y-8002	<73	25, 27, 51, 59, 79, 95, 104, 105, 109, 111, 112, 113, 114, 116, 118
93-005	<73	17, 25, 88, 105, 109, 112, 113, 114
93-082	<73	1, 17, 25, 57, 59, 60, 88, 100, 101, 105, 109, 112, 113, 114, 117
93-421	<73	1, 17, 25, 57, 59, 60, 88, 100, 101, 105, 109, 112, 113, 114, 117
93-508	<73	1, 17, 25, 57, 59, 60, 88, 95, 105, 106, 109, 112, 113, 114, 117
93-1226	<73	1, 17, 25, 57, 59, 60, 88, 100, 101, 105, 109, 112, 113, 114, 117
93-1863	<73	1, 17, 25, 57, 60, 79, 88, 100, 105, 106, 109, 112, 113, 114, 117
93-3421	<73	1, 17, 25, 57, 59, 60, 88, 100, 101, 105, 109, 112, 113, 114, 17
93-19045	<73	1, 17, 25, 57, 59, 60, 79, 88, 100, 105, 109, 112, 113, 117
93-21667	<73	1, 17, 25, 57, 59, 60, 88, 95, 105, 106, 109, 112, 113, 117
93-58209	<100	1, 17, 25, 57, 59, 60, 88, 100, 105, 106, 109, 112, 113, 114, 117
93-77257	<73	1, 17, 25, 57, 59, 60, 88, 105, 106, 109, 112, 113, 114, 117
93-77968	<73	1, 17, 25, 57, 59, 60, 88, 105, 106, 109, 112, 113, 114, 117
96-Y-670	<100	1, 25, 85, 104, 105, 106, 109, 113, 114, 117
96-Y-673	<100	1, 17, 25, 51, 88, 100, 101, 104, 105, 113, 114, 117
96-Y-12119	<100	1, 17, 25, 51, 88, 95, 104, 105, 106, 113, 114, 117
96-Y-12120	<100	1, 17, 25, 51, 88, 95, 104, 105, 106, 113, 114, 117
96-Y-12121	<100	1, 17, 25, 51, 88, 100, 101, 104, 105, 113, 114, 117
96-Y-12122	<100	1, 17, 25, 51, 88, 100, 101, 104, 105, 113, 114, 117
96-Y-12792	<100	1, 17, 25, 51, 88, 95, 104, 105, 106, 112, 113, 114, 117
96-Y-12793	<100	1, 17, 25, 51, 88, 104, 105, 106, 112, 113, 114, 117
96-Y-13035	<100	1, 17, 25, 51, 88, 95, 104, 105, 113, 114, 117
96-Y-13042	<73	1, 17, 25, 51, 88, 95, 104, 105, 106, 113, 114, 117
96-Y-23309	<100	1, 17, 25, 41, 51, 57, 59, 88, 95, 104, 105, 106, 113, 114, 117
96-Y-23662	<100	1, 25, 51, 88, 100, 101, 104, 105, 113, 114
96-Y-23663	<100	1, 17, 25, 51, 88, 101, 104, 105, 113, 114, 117
96-Y-23664	<100	1, 17, 25, 88, 100, 105, 106, 109, 112, 113, 114
96-Y-23665	<100	1, 25, 51, 57, 59, 88, 104, 105, 106, 113, 114, 117
96-Y-23666	<100	1, 17, 25, 51, 88, 95, 104, 105, 106, 113, 114, 117
96-Y-35472	<100	1, 17, 25, 51, 88, 95, 101, 104, 105, 113, 114, 117
96-Y-62279	<100	1, 17, 25, 51, 88, 95, 104, 105, 113, 114, 117
96-Y-62280	<100	1, 17, 25, 51, 88, 95, 104, 105, 106, 113, 114, 117
96-Y-63446	<100	1, 17, 25, 51, 88, 95, 104, 105, 113, 114, 117
96-Y-63447	<100	1, 17, 25, 51, 88, 95, 104, 105, 113, 114, 117
96-Y-63449	<73	1, 17, 25, 51, 88, 101, 104, 105, 106, 113, 114, 117
96-Y-67608	<100	1, 17, 25, 51, 88, 95, 104, 105, 106, 113, 114, 117
96-Y-67609	<100	1, 17, 25, 51, 104, 105, 113, 114, 117
96-Y-67610	<100	1, 17, 25, 51, 88, 95, 104, 105, 106, 113, 117
96-Y-67611	<73	1, 17, 25, 51, 104, 105, 113, 117
96-Y-67632	>100	1, 51, 57, 59, 88, 95, 105, 106, 113, 114, 117, 119
96-Y-67633	<100	1, 17, 25, 51, 88, 95, 104, 105, 106, 113, 114, 117
96-Y-67635	<100	1, 17, 25, 51, 88, 95, 104, 105, 113, 114, 117
96-Y-67636	<100	1, 17, 25, 51, 88, 95, 101, 104, 105, 113, 114, 117
96-Y-67637	<100	1, 17, 25, 51, 88, 95, 104, 105, 113, 114, 117
96-Y-67638	<100	1, 17, 25, 51, 88, 95, 104, 105, 106, 113, 114, 117
96-Y-67639	<100	1, 17, 25, 51, 88, 95, 104, 105, 106, 113, 114, 117
96-Y-67640	<100	25, 57, 88, 105, 113, 114
96-Y-67641	<100	1, 17, 25, 51, 88, 95, 104, 105, 113, 114, 117
96-Y-67642	<73	1, 17, 25, 51, 57, 59, 95, 101, 104, 105, 106, 113, 114, 117
96-Y-67645	<100	1, 17, 25, 51, 88, 95, 104, 105, 113, 114, 117
96-Y-67646	<100	1, 17, 25, 51, 88, 95, 104, 105, 106, 113, 114, 117
96-Y-67846	<100	1, 17, 25, 51, 88, 95, 104, 105, 106, 113, 114, 117
96-Y-67999	<100	1, 17, 25, 51, 88, 95, 104, 105, 106, 113, 114, 117
96-Y-68176	<100	1, 17, 25, 51, 88, 95, 101, 104, 105, 113, 114, 117
96-Y-68205	<100	1, 17, 25, 51, 88, 100, 101, 104, 105, 113, 114, 117
96-Y-68224	<73	1, 17, 25, 27, 51, 79, 85, 88, 95, 104, 105, 112, 113, 114, 116, 117
96-Y-68224	<73	1, 17, 25, 27, 51, 79, 85, 88, 95, 104, 105, 112, 113, 114, 116, 117
96-Y-68233	<100	1, 17, 25, 51, 104, 105, 106, 113, 114, 117

Section II — Hazardous Ingredients — Continued

Product Code	Flash Point °F (Closed Cup)	Hazardous Ingredients
481-5085	<100	20, 25, 47, 57, 65, 88, 95, 104, 105, 113, 114, 116, 117
481-5086	<100	47, 57, 65, 80, 95, 104, 105, 113, 114, 116, 117, 119
481-5202	<100	1, 47, 57, 95, 104, 105, 111, 113, 114, 116
481-8046	<100	47, 57, 65, 95, 104, 105, 113, 114, 116, 117, 119
481-H-63015	<100	47, 57, 65, 95, 104, 105, 113, 114, 116, 117, 119
481-H-63019	<100	47, 57, 65, 95, 104, 105, 113, 114, 116, 117, 119
523-503	<73	10, 17, 20, 25, 44, 45, 57, 85, 95, 105, 116, 117
523-504	<73	11, 17, 20, 25, 45, 57, 85, 95, 105, 116, 117
529-ZB201	>100	59, 60, 83, 88, 95, 104, 111, 116
612-A706	<73	25, 57, 60, 105, 113
612-B706		82, 108, 113
612-C706	<73	25, 57, 60, 82, 105, 108, 113
621-Y-9092	<73	1, 22, 25, 54, 70, 79, 104, 105, 112, 113, 116, 117, 119
631-Y-739	<73	1, 25, 59, 88, 95, 103, 104, 105, 109, 112, 113, 117
639-Y-987	>100	1, 17, 25, 27, 57, 59, 79, 83, 88, 95, 104, 105, 106, 113, 114, 117, 119
639-Y-988	>100	1, 17, 25, 27, 57, 59, 79, 83, 88, 95, 104, 105, 106, 113, 114, 117, 119
639-Y-5701	>100	104, 105, 111, 113, 114, 117, 119
639-Y-5702	>100	104, 105, 111, 113, 117, 119
639-Y-5711	>100	59, 104, 105, 113, 114, 117, 119
639-Y-5712	>100	59, 104, 105, 113, 114, 117, 119
639-Y-5721	>100	59, 104, 105, 113, 114, 117, 119
639-Y-5722	>100	59, 104, 105, 113, 114, 117, 119
639-Y-5811	>100	59, 104, 105, 113, 114, 117, 119
639-Y-5812	>100	59, 104, 105, 113, 114, 117, 119
657-Y-771	<73	1, 17, 22, 25, 32, 34, 51, 57, 95, 104, 105, 106, 107, 112, 113, 114, 117
657-Y-845	<73	1, 17, 22, 25, 35, 51, 57, 76, 88, 104, 105, 106, 109, 112, 113, 114, 117
657-Y-864	<73	1, 17, 22, 25, 32, 34, 51, 88, 100, 101, 103, 104, 105, 109, 112, 113, 117
657-Y-865	<73	1, 17, 22, 25, 51, 57, 95, 101, 104, 105, 106, 109, 112, 113, 114, 117
657-Y-866	<73	1, 17, 22, 25, 35, 51, 104, 105, 106, 108, 109, 112, 113, 114, 117
657-Y-867	<73	1, 17, 22, 25, 51, 57, 79, 88, 100, 104, 105, 106, 109, 112, 113, 114, 117
657-Y-868	<73	1, 17, 22, 25, 51, 57, 59, 88, 95, 104, 105, 106, 109, 112, 113, 114, 117
657-Y-869	<73	1, 17, 22, 25, 51, 57, 76, 88, 95, 101, 104, 105, 109, 112, 113, 114, 117
657-Y-870	<73	1, 17, 22, 25, 51, 104, 105, 106, 109, 112, 113, 114, 117
657-Y-882	<73	1, 14, 17, 25, 27, 51, 88, 95, 104, 105, 109, 111, 112, 113, 114
657-Y-883	<73	22, 25, 51, 88, 104, 105, 112, 113, 114
657-Y-885	<73	1, 17, 22, 25, 35, 57, 59, 88, 95, 104, 105, 106, 111, 112, 113, 114
657-Y-8110	<73	1, 25, 59, 88, 95, 101, 103, 104, 105, 106, 109, 113, 117
657-Y-8123	<73	1, 25, 57, 88, 103, 104, 105, 109, 112, 113, 114
657-Y-8526	<73	17, 22, 25, 73, 88, 104, 105, 109, 112, 114, 118
657-Y-8583	<73	1, 22, 51, 59, 79, 88, 95, 103, 104, 105, 109, 113, 117
657-Y-9010	<73	1, 17, 22, 25, 27, 51, 88, 95, 104, 105, 112, 113, 114, 117
657-Y-9029	<73	1, 17, 22, 25, 32, 34, 51, 88, 95, 100, 101, 104, 105, 109, 112, 113, 114, 117, 118
657-Y-9102	<73	1, 17, 22, 25, 51, 57, 59, 88, 95, 104, 105, 106, 109, 112, 113, 114, 117
657-Y-9106	<73	1, 17, 22, 25, 32, 34, 51, 88, 95, 104, 105, 106, 109, 112, 113, 114, 117
657-Y-12121	<73	1, 22, 25, 51, 57, 59, 88, 104, 105, 106, 112, 113, 114, 117
657-Y-12123	<100	22, 25, 34, 51, 88, 103, 104, 105, 113, 114
657-Y-12125	<73	1, 17, 22, 25, 40, 51, 88, 95, 104, 105, 112, 113, 114, 117
657-Y-12127	<73	1, 17, 22, 25, 51, 57, 100, 101, 104, 105, 112, 113, 114, 117
657-Y-12135	<73	1, 17, 22, 25, 51, 57, 88, 95, 104, 105, 106, 109, 112, 113, 114, 117
657-Y-12160	<73	1, 17, 22, 25, 32, 34, 51, 57, 104, 105, 106, 112, 113, 114, 117
657-Y-12797	<73	1, 17, 22, 25, 32, 34, 51, 57, 95, 104, 105, 106, 112, 113, 114, 117
657-Y-68388	<73	1, 17, 22, 25, 51, 57, 59, 60, 88, 95, 104, 105, 106, 112, 113, 114, 117
657-Y-68425	<73	1, 17, 22, 25, 51, 57, 59, 60, 88, 95, 104, 105, 106, 112, 113, 114, 117
681-704	<73	16, 17, 31, 57, 67, 80, 83, 95, 104, 105, 113, 114, 116
681-705	<73	16, 17, 31, 57, 67, 80, 83, 95, 104, 105, 113, 114, 116
681-8038	<100	25, 27, 57, 60, 79, 95, 103, 104, 105, 109, 111, 113, 116, 118
681-9049	<73	1, 22, 25, 57, 59, 95, 104, 105, 109, 111, 112, 113, 114, 118
681-Y-702	<73	22, 25, 35, 57, 79, 95, 104, 105, 111, 112, 113, 114, 116, 119
681-Y-9032	<73	18, 22, 25, 27, 51, 59, 95, 104, 105, 109, 111, 112, 113, 114, 116, 118
681-Y-9049	<73	1, 17, 22, 95, 104, 105, 109, 111, 112, 113, 114, 118
802-M-23563	<73	20, 30, 46, 57, 84 & 85, 104, 105, 106, 118
802-Y-67632	<73	20, 30, 46, 57, 84 & 85, 104, 105, 106, 118
802-Y-67640	<73	20, 30, 46, 57, 89, 104, 105
802-Y-78390	<73	20, 30, 46, 57, 84 & 85, 104, 105, 106, 118
818-021	<73	23, 26, 36, 57, 59, 95, 104, 105, 112
818-026	<73	1, 23, 25, 26, 27, 57, 59, 73, 95, 104, 105, 112, 113, 116, 118, 119
818-13170	<73	25, 27, 51, 57, 105, 116, 118
823-5151A	<100	57, 83, 93, 121
823-5151B	<100	17, 57, 105
823-5152A	<100	57, 83, 93, 121
823-5152B	<100	17, 57, 105
823-5153A	<100	57, 83, 93, 121

Product Code	Flash Point °F (Closed Cup)	Hazardous Ingredients
823-5153B	<100	17, 57, 105
823-5214	<100	17, 25, 27, 35, 44, 45, 57, 59 83, 85, 88, 93, 95, 105, 113, 116, 117
823-A9107	<100	22, 57, 105, 120
823-B9107	<100	23, 57, 93
823-A9108	<100	22, 57, 105, 120
823-B9108	<100	23, 57, 93
823-A9109	<100	57, 120
823-B9109	<100	23, 57, 120
823-A9110	<100	57, 120
823-B9110	<100	23, 57, 120
823-H-67727	<73	17, 25, 27, 35, 44, 45, 57, 59, 85, 93, 105, 106, 116, 117
823-H-70486	<73	17, 25, 27, 28, 35, 44, 45, 57, 59, 85, 88, 93, 95, 105, 106, 116, 117
823-Y-502	<73	17, 25, 27, 28, 29, 35, 44, 45, 57, 59, 85, 88, 93, 104, 105, 116, 117
823-Y-5113	<73	17, 25, 27, 35, 44, 45, 52, 57, 59, 85, 93, 95, 105, 106, 116, 117
823-Y-5119A	96	17, 105, 106, 117
823-Y-5119A	100	
823-Y-5119B	100	
823-Y-5119B	145	93, 114, 116
823-Y-8018	<73	17, 25, 27, 35, 44, 45, 57, 59, 85, 88, 93, 95, 105, 116
823-Y-8296	<73	17, 25, 27, 35, 44, 45, 57, 59, 85, 88, 93, 95, 104, 105, 106, 116, 117
823-Y-8297	<73	17, 25, 35, 45, 57, 59, 85, 93, 104, 105, 116, 117
823-Y-12119	<73	17, 25, 27, 35, 44, 45, 57, 59, 85, 88, 93, 95, 105, 106, 116, 117
823-Y-12120	<73	17, 25, 27, 35, 44, 45, 57, 59, 85, 88, 93, 95, 105, 106, 116, 117
823-Y-23309	<73	17, 25, 27, 35, 44, 45, 57, 59, 85, 93, 95, 105, 106, 116, 117
823-Y-67632	<73	17, 25, 27, 35, 44, 45, 57, 59, 85, 93, 95, 105, 106, 116, 117
823-Y-67633	<73	17, 25, 27, 35, 44, 45, 57, 59, 85, 88, 93, 95, 105, 106, 116, 117
823-Y-67635	<73	17, 25, 27, 35, 44, 45, 57, 59, 85, 93, 95, 205, 116, 117
823-Y-67636	<73	17, 25, 27, 35, 44, 45, 57, 59, 85, 93, 95, 105, 116, 117
823-Y-67637	<73	17, 25, 27, 35, 44, 45, 57, 59, 85, 88, 93, 95, 105, 116, 117
823-Y-67639	<73	17, 25, 27, 35, 44, 45, 57, 59, 85, 88, 93, 95, 105, 106, 116, 117
823-Y-67640	<73	17, 25, 27, 35, 44, 45, 57, 59, 88, 93, 105
823-Y-67642	<73	17, 25, 27, 35, 44, 45, 57, 59, 85, 88, 93, 95, 105, 106, 116, 117
823-Y-67646	<73	17, 25, 27, 35, 44, 45, 57, 59, 85, 88, 93, 95, 105, 106, 116, 117
823-Y-68002	<73	17, 25, 27, 28, 35, 44, 45, 57, 59, 85, 88, 93, 95, 105, 116, 117
823-Y-68003	<73	17, 25, 27, 38, 35, 44, 45, 57, 59, 85, 93, 95, 105, 116, 117
823-Y-68288	<73	17, 25, 27, 35, 44, 45, 57, 59, 85, 88, 93, 95, 105, 106, 116, 117
823-Y-68381	<73	17, 25, 27, 35, 44, 45, 57, 59, 85, 88, 93, 95, 104, 105, 106, 116, 117
823-Y-68396	<73	17, 25, 27, 35, 44, 45, 57, 59, 85, 88, 93, 95, 105, 106, 116, 117
823-Y-68414	<73	14, 25, 27, 35, 44, 45, 57, 59, 85, 88, 93, 95, 105, 106, 116, 117
825-007	<73	7, 20, 22, 23, 25, 51, 57, 93, 95, 104, 113, 118
825-020	<73	1, 17, 22, 25, 35, 45, 57, 59, 79, 93, 95, 102, 105, 111, 113, 115, 116
825-151	<100	1, 17, 22, 25, 27, 35, 44, 45, 47, 59, 83, 93, 102, 105, 106, 113, 115, 116, 117
825-022	<73	1, 17, 25, 35, 45, 57, 60, 79, 93, 102, 105, 115, 116, 118
825-5008	<73	1, 17, 20, 25, 27, 35, 45, 57, 93, 95, 105, 111, 113, 116, 118
825-Y-003A	96	17, 95, 105, 106, 116, 117
825-Y-003A	100	
825-Y-003B	100	
825-Y-003B	145	93, 104, 114, 116
825-Y-2288	<73	1, 16, 17, 25, 27, 35, 44, 45, 57, 59, 71, 85, 88, 93, 105, 106, 113, 116, 117
825-Y-5002	<73	1, 17, 24, 25, 27, 35, 47, 57, 59, 93, 95, 105, 111, 113, 116, 118
825-Y-5004	<73	17, 20, 22, 25, 35, 45, 51, 57, 79, 93, 104, 105, 116, 117
825-Y-5005	<73	17, 20, 22, 25, 27, 35, 44, 45, 51, 57, 59, 79, 93, 104, 105, 106, 116, 117
825-Y-8031	<73	1, 7, 24, 25, 27, 35, 47, 57, 59, 93, 95, 105, 111, 113, 116, 118
825-Y-8032	<73	1, 17, 21, 22, 25, 27, 35, 57, 79, 93, 95, 105, 111, 113, 116, 118
825-Y-8045	<73	1, 17, 25, 27, 35, 45, 57, 93, 95, 104, 105, 113, 118
825-Y-8600	<73	17, 20, 22, 25, 35, 45, 51, 57, 79, 93, 104, 105, 116, 117
825-Y-8601	<73	17, 20, 22, 25, 27, 35, 44, 45, 51, 57, 59, 79, 93, 104, 105, 106, 116, 117
825-Y-9031	<73	1, 17, 25, 27, 35, 45, 57, 59, 79, 93, 95, 104, 105, 111, 113, 116
840-5023	<100	17, 22, 23, 25, 27, 35, 44, 45, 57, 59, 85, 88, 93, 95, 104, 105, 106, 113, 114, 116, 117
881-Y-017	<20	16, 19, 20, 22, 25, 27, 45, 57, 64, 79, 88, 95, 104, 105, 113, 116, 117, 118
881-Y-023	<20	16, 19, 25, 27, 44, 45, 49, 64, 79, 88, 105, 116, 117, 118
909-67640	<73	16, 17, 22, 57, 59, 80, 88, 104, 105, 13, 114
909-68446	<100	1, 16, 17, 25, 47, 57, 80, 88, 95, 104, 105, 106, 111, 112, 113, 114, 117
909-68447	<100	1, 16, 17, 25, 47, 57, 59, 80, 88, 95, 104, 105, 106, 112, 113, 114, 117
917-12145	<73	20, 22, 25, 27, 47, 52, 57, 88, 95, 99, 104, 105, 106, 114, 117
917-12146	<73	20, 22, 25, 27, 47, 52, 57, 88, 95, 99, 104, 105, 106, 114, 117
917-23309	<73	17, 20, 25, 27, 47, 48, 57, 65, 88, 95, 99, 105, 10, 114, 117
917-43094	<73	17, 20, 22, 25, 27, 48, 51, 57, 88, 95, 99, 104, 105, 106, 114, 116, 117
917-43241	<73	20, 25, 27, 47, 57, 65, 88, 95, 99, 105, 106, 114, 117
917-54108	<73	17, 20, 25, 27, 47, 48, 57, 65, 88, 95, 99, 105, 106, 114, 117
917-77257	<73	17, 20, 25, 27, 47, 48, 57, 65, 88, 99, 105, 106, 113, 114, 117

Section II — Hazardous Ingredients — Continued

Product Code	Flash Point °F (Closed Cup)	Hazardous Ingredients
994-Y-AJ613	< 20	16, 19, 20, 25, 27, 37, 44, 45, 53, 57, 64, 79, 86, 88, 105, 106, 107, 117
994-Y-AB372	< 20	16, 19, 20, 25, 27, 37, 44, 45, 57, 59, 82, 86, 88, 105, 106, 108, 113
995-Y-AJ634	< 20	16, 19, 20, 25, 27, 44, 45, 51, 57, 64, 82, 86, 88, 95, 105, 106, 108, 113, 117
995-Y-AK283	< 20	16, 19, 20, 25, 27, 44, 45, 51, 57, 64, 82, 86, 88, 95, 105, 106, 108, 113
995-Y-AK284	< 20	16, 19, 20, 25, 27, 44, 45, 51, 57, 59, 64, 82, 86, 88, 95, 105, 106, 113
1065-Y-8104	< 73	22, 25, 28, 51, 54, 69, 95, 103, 104, 105, 112, 113, 116, 117, 119
1081-Y-0895	< 73	1, 17, 25, 28, 59, 88, 95, 105, 109, 112, 113
1081-Y-43499	< 73	1, 17, 22, 25, 27, 28, 40, 45, 51, 57, 59, 83, 88, 103, 104, 105, 109, 113, 114, 116, 118
1657-Y-768	< 73	1, 17, 22, 25, 51, 59, 88, 95, 104, 105, 112, 113, 114, 117
1657-Y-9057	< 73	17, 22, 25, 27, 32, 34, 51, 88, 104, 105, 109, 112, 113, 114
1657-Y-9067	< 88	1, 17, 22, 25, 51, 57, 59, 88, 95, 104, 105, 106, 109, 112, 113, 114, 117
1657-Y-9070	< 73	22, 25, 51, 73, 88, 104, 105, 109, 112, 113, 114
1657-Y-9072	< 73	1, 17, 22, 25, 27, 51, 88, 95, 101, 104, 105, 109, 112, 113, 114, 117
1657-Y-9083	< 73	1, 17, 22, 25, 32, 34, 51, 88, 104, 105, 106, 109, 112, 113, 114, 117
1657-Y-9110	< 73	1, 17, 22, 25, 51, 88, 95, 104, 105, 106, 109, 111, 112, 113, 114, 117
1681-9053	78	1, 25, 57, 95, 104, 105, 109, 111, 112, 113, 114, 116, 118
1681-Y-703	< 73	1, 17, 25, 27, 45, 95, 103, 104, 105, 111, 112, 113, 116

Section III — Physical Data

Evaporation rate: Slower than ether

Solubility in water: Negligible to appreciable, depending on color and quality.

Approximate boiling range: 170°F-400°F

Vapor density: Heavier than air

Percent volatile by volume: 57% typical

Gallon weight: 10.5 lbs. typical

Section IV — Fire & Explosion Data

Flash point (Method): Refer to product list in Section II.
Approximate flammable limits: 1-14%.
Extinguishing media: Foam, carbon dioxide, dry chemical.
Special fire fighting procedures: Full protective equipment, including self-contained breathing apparatus, is recommended. Water from fog nozzles may be used to cool closed containers to prevent pressure build up.
Unusual fire & explosion hazards: When heated above the flash point, emits flammable vapors which, when mixed with air, can burn or be explosive. Fine mists or sprays may be flammable at temperatures below the flash point.

Section V — Health Hazard Data (See Also Section X Notes)

Ingestion: Gastro-intestinal distress.
In the unlikely event of ingestion, call a physician immediately and have names of ingredients available.
Inhalation: May cause nose and throat irritation. May cause nervous system depression characterized by the following progressive steps: headache, dizziness, nausea, staggering gait, confusion, unconsciousness. Reports have associated repeated and prolonged overexposure to solvents with permanent brain and nervous system damage.
If affected by inhalation of vapor or spray mist, remove to fresh air. If not breathing, give artificial respiration, preferably mouth-to-mouth. If breathing difficulty persists, or occurs later, consult a physician.
Skin or eye contact: May cause irritation or burning of the eyes. Repeated or prolonged liquid contact may cause skin irritation with discomfort and dermatitis.
In case of eye contact, immediately flush with plenty of water for at least 15 minutes; call a physician.
In case of skin contact, wash with soap and water. If irritation occurs, contact a physician.

Section VI — Reactivity Data

Stability: Stable.
Incompatibility (materials to avoid): None reasonably foreseeable.
Hazardous decomposition products: CO, CO_2, smoke, oxides of heavy metals reported in Section X.
Hazardous polymerization: Will not occur.

Section VII — Spill or Leak Procedures

Steps to be taken in case material is released or spilled: Ventilate area. Remove sources of ignition. Prevent skin contact and breathing of vapor. Confine and remove with inert absorbant.
Waste disposal method: Do not allow material to contaminate ground water systems. Incinerate absorbed material in accordance with federal, state and local requirements. Do not incinerate in closed containers.

Section VIII — Special Protection Information

Respiratory: Do not breathe vapors or mists. Wear a properly fitted vapor/particulate respirator approved by NIOSH/MSHA (TC-23C) for use with paints during application and until all vapors and spray mist are exhausted. Follow the respirator manufacturer's directions for respirator use.
Ventilation: Provide sufficient ventilation in volume and pattern to keep contaminants below applicable OSHA requirements.
Protective clothing: Coveralls and neoprene gloves are recommended. Do not reuse coveralls while solvent odor is retained in them.
Eye protection: Desirable in all industrial situations. Goggles are preferred to prevent eye irritation. If safety glasses are substituted, include splash guards or side shields.
Protective creams: May be used for ease of clean-up, not for protection.

Section IX — Special Precautions

Precautions to be taken in handling and storing: Observe label precautions. Keep away from heat, sparks and flame. Close container after each use. Ground containers when pouring. Wash thoroughly after handling and before eating and smoking. Do not store above 120°F.

Section IX — Continued

Other precautions: Do not sand, flame cut, braze or weld dry coating without NIOSH/MSHA approved respirator or appropriate ventilation.

Section X — Additional Information

Following is a summary of the ingredients listed in Section II and their known hazards.

Ingredient No.	Name	CAS No.	Vapor Pressure (mm Hg @ 20°C)	Exposure Limits
1.	Soya lecithin	8002-43-5	None	None
10.	Amine, trade secret	None	None	None

May cause allergic skin rash, itching, swelling. Causes severe eye irritation.

11.	Curing agent	None	None	None
12.	Resinous chlorinated paraffin	61788-76-9	None	None
13.	2, 2' Dihydroxy-4-methoxy-benzophenone	None	None	None

May cause allergic skin rash, itching, swelling.

15.	Denatured ethyl alcohol (5% Acetone)	None	3	1000 ppm-A 1000 ppm-O
16.	Butyl acetate	123-86-4	8	150 ppm-A 150 ppm-O

Extremely high concentrations have caused blood changes and weakness in laboratory animals.

17.	N-butyl alcohol	71-36-3	4	50 ppm-A ceiling 100 ppm-O 25 ppm-D 50 ppm-D, 15 min.

May cause moderate eye burning.

18.	Linseed oil, alkali refined	8001-26-1	None	10 ppm mg/m³-A
19.	Acetone	67-64-1	186	750 ppm-A 1000 ppm-O
20.	Methyl ethyl ketone	78-93-3	95	200 ppm-A 200 ppm-O

High concentrations have caused embryotoxic effects in laboratory animals. Methyl ethyl ketone has been demonstrated to potentiate (i.e., shorten the time of onset) the peripheral neuropathy caused by either N-Hexane or Methyl N-butyl ketone. MEK by itself has not been demonstrated to cause peripheral neuropathy.

21.	Diacetone alcohol	123-42-2	1	50 ppm-A 50 ppm-O
22.	Methyl alcohol	67-56-1	125	200 ppm-A skin 200 ppm-O 200 ppm-D skin 100 ppm-D skin

Excessive human exposure to methanol may lead to: fatigue, headache, anesthetic, neurologic effects, and visual difficulties including blindness or death. Can be absorbed through the skin in harmful amounts. Recurrent overexposure may result in liver and kidney injury.

23.	Methyl isobutyl ketone	108-10-1	15	50 ppm-A 150 ppm-O

May cause abnormal kidney function.

24.	4-Methyl -2 pentanol	108-11-2	Unknown	25 ppm-A skin 25 ppm-O

Male rats exposed to very high airborne levels showed an increase in kidney weights. These effects were not seen in male rats exposed to lower concentrations, or in female rats at the same level.

25.	Toluene	108-88-3	29	100 ppm-A 200 ppm-O

Tests in animals have shown liver, bone marrow and kidney effects.

26.	Cyclo-hexanone	108-94-1	2	25 ppm-A 50 ppm-O

Can be absorbed through the skin in harmful amounts. Recurrent overexposure may result in liver and kidney injury. Prolonged skin contact may cause chemical burns. Liquid splashes in the eye may result in chemical burns.

27.	Isopropyl alcohol	67-63-0	44	400 ppm-A 400 ppm-O

May cause eye irritation with discomfort, tearing, or blurred vision. Ingestion studies on laboratory animals showed that very high oral doses caused increased liver and kidney weights. High oral doses have caused anemia in laboratory animals.

28.	2-Ethoxy-ethanol	110-80-5	4	5 ppm-A skin 200 ppm-O skin 10 ppm-D skin

Can be absorbed through the skin in harmful amounts. Repeated exposure to high concentrations may cause injury to the bone marrow and blood cells, kidney, liver and testes. Exposure of female laboratory animals has resulted in increased fetal mortality, delayed fetal development and birth defects.

29.	2-Ethoxy-ethyl acetate	111-15-9	1.7	5 ppm-A skin 200 ppm-O skin 10 ppm-D skin

Repeated exposure to high concentrations may cause injury to the bone marrow and blood cells, kidney, liver and testes. Exposure of female laboratory animals has resulted in increased fetal mortality, delayed fetal development and birth defects.

30.	Primary amyl acetate	628-63-7	4.5	100 ppm-A
31.	Methyl-N amyl ketone	110-43-0	2	50 ppm-A 100 ppm-O

Ingestion studies on laboratory animals showed that very high oral doses caused increased liver and kidney weights.

Section X — Continued

Ingredient No.	Name	CAS No.	Vapor Pressure (mm Hg @ 20°C)	Exposure Limits
32.	Dibutyl phthalate	84-74-2	None	5 mg³/m³-D
33.	Bis (tri-N-butyl tin) oxide	56-35-9	None	0.1 mg/m³-A

Can be absorbed through the skin in harmful amounts. Liquid splashes in the eye may result in chemical burns. Prolonged skin contact may cause chemical burns.

35.	Propylene glycol methyl ether	107-98-2	11	100 ppm-A

May cause eye irritation with discomfort, tearing, or blurred vision. May cause temporary upper respiratory and/or lung irritation with cough, difficult breathing, or shortness of breath. Can be absorbed through the skin in harmful amounts.

36.	Dioctyl phthalate	117-81-7	None	5 mg/m³-A
37.	Mixed diabasic esters	None	14	10 mg/m³-D

May cause eye irritation with discomfort, tearing, or blurred vision. High airborne levels in rats have shown mild injury to the olfactory region of the nose.

38.	Trixylenyl phosphate	68952-33-0	None	None

Has produced delayed neurotoxicity via oral and dermal routes in studies on the hen.

39.	Chlorinated paraffin	None	None	None
40.	2-Butoxyethanol	111-76-2	1	25 ppm-A skin 50 ppm-O skin 10 ppm-D skin

Can be absorbed through the skin in harmful amounts. May cause injury to the kidneys, liver, blood and/or bone marrow. Repeated overexposure may result in damage to the blood. Eye contact may cause corneal injury.

42.	Linseed oil	8001-26-1	None	5 mg/m³-D
43.	Terpene hydrocarbon	9005-90-7	Unknown	None
44.	Ethyl acetate	141-78-6	74	400 ppm-A 400 ppm-O

Prolonged and repeated high exposures of laboratory animals resulted in secondary anemia with an increase in white blood cells; fatty degeneration, cloudy swelling and an excess of blood in various organs.

45.	Propylene glycol monomethyl ether acetate	108-65-6	3.8	None

Can be absorbed through the skin in harmful amounts. May cause injury to the kidneys, liver, blood and/or bone marrow. Repeated overexposure may result in damage to the blood. Eye contact may cause corneal injury. May cause moderate eye burning. Can be absorbed through the skin in harmful amounts.

46.	Diisodecyl phthalate	26761-40-0	None	None
47.	Ethylene glycol monobutyl ether acetate	112-07-2	0.3	25 ppm-S 20 ppm-D skin
48.	Vinyl oxzazoline ester of linseed oil	None	None	None

May cause eye irritation with discomfort, tearing, or blurred vision.

49.	2, 4 Pentane dione	123-54-6	Unknown	None
51.	Water	7732-18-5	20	None
53.	Ethylene glycol	107-21-1	0.1	50 ppm-A ceiling 10 mg/m³-O

Has been shown to produce dose related teratogenic effects in rats and mice when given orally in high concentrations.

57.	Xylene	1330-20-7	25	100 ppm-A 100 ppm-O

High concentrations have caused embryotoxic effects in laboratory animals. Recurrent overexposure may result in liver and kidney injury. Can be absorbed through the skin in harmful amounts.

59.	Aromatic hydrocarbon	64742-95-6	10	50 ppm-D
60.	Aromatic hydrocarbon	64742-94-5	10	100 ppm-D
64.	Butyl benzyl phthalate	85-68-7	None	5 mg/m³-D

Extremely high oral doses have caused tissue changes in the liver and testes of laboratory animals. Extremely high vapor aerosol doses have caused atrophy of the spleen and reproductive organs. Cancer hazard based on tests with laboratory animals. Overexposure may create cancer risk.

65.	Diethylene glycol monobutyl ether acetate	112-70-2	0.1	20 ppm-D
66.	Polymerized linseed oil	None	None	10 mg/m³-A
67.	Methyl N-propyl ketone	107-87-9	Unknown	200 ppm-A 200 ppm-A
70.	Aluminum silicate, hydrated	58425-86-8	None	10 mg/m³-A 15 mg/m³-O
71.	Basic zinc molybdate	None	None	None
72.	Copper chromite black spinel	68186-91-4		.5 mg/m³-A

Overexposure may cause eye, nose and throat irritation. Repeated or prolonged contact may cause skin irritation with discomfort and dermatitis.

Section X — Continued

Ingredient No.	Name	CAS No.	Vapor Pressure (mm Hg @ 20°C)	Exposure Limits
101.	Lead chromate	18454-12-1	None	150 ug/m³-A as lead (Pb) 50 ug/m³-O as lead (Pb) 50 ug/m³-A as chromium (Cr) 0.1 mg/m³-O as chromium (Cr)

Overexposure to lead may cause adverse effects to the blood forming, nervous, urinary, reproductive systems including embryotoxic effects. Symptoms may include loss of appetite, anemia, disturbance of sleep and fatigue. See OSHA lead standard 29CFR1910.1025. Is an IARC, NTP or OSHA carcinogen.

102.	Mica	12001-26-2	None	0.3 mg/m³-A respirable 0.3 mg/m³-O respirable

Repeated and prolonged overexposure may lead to chronic lung disease.

103.	Manganese naphthenate		None	5 mg/m³-A ceiling 5 mg/m³-O ceiling

Contact may cause skin irritation with discomfort or rash.

104.	Non-hazardous inorganic pigment	None	None	None
105.	Non-hazardous polymer	None	None	None
106.	Non-hazardous organic pigment	None	None	None
107.	Nickel, Antimony, Titanium yellow pigment	8007-18-9	None	0.5 mg/m³-A SB 0.5 mg/m³-O SB

Antimony and nickel are incorporated innto the crystal structure of titanium dioxide. As such they are chemically and biologically inert.

108.	Fatty acids	None	None	None
109.	Lead naphthenate	7439-92-1	None	150 ug/m³-A, as lead (Pb) 50 ug/m³-O, as lead (Pb)

Overexposure to lead may cause adverse effects to the blood forming, nervous, urinary, reproductive systems including embryotoxic effects. Symptoms may include loss of appetite, anemia, disturbance of sleep and fatigue. See OSHA lead standard 29CFR1910.1025. Can be absorbed through the skin in harmful amounts.

110.	Poly-siloxanes	26352-16-9	None	None
111.	Quartz-crystalline silica	14808-60-7	None	0.1 mg/m³-A respirable 0.1 mg/m³-O respirable

Repeated overexposure to crytalline silica may lead to typical x-ray changes and chronic lung disease.

112.	VM & P naphtha	64742-89-8	None	300 ppm-A 100 ppm-D

Laboratory studies with rats have shown that petroleum distillates cause kidney damage and kidney or liver tumors. These effects were not seen in similar studies with guinea pigs, dogs, or monkeys. Several studies evaluating petroleum workers have not shown significant increases of kidney damage nor kidney or liver tumors.

113.	Medium mineral spirits	64742-88-7	None	100 ppm-A 500 ppm-O 100 ppm-D

Laboratory studies with rats have shown that petroleum distillates cause kidney damage and kidney or liver tumors. These effects were not seen in similar studies with guinea pigs, dogs, or monkeys. Several studies evaluating petroleum workers have not shown significant increases of kidney damage.

114.	Heavy naphtha	64742-48-9	None	100 ppm-D

Laboratory studies with rats have shown that petroleum distillates cause kidney damage and kidney or liver tumors. These effects were not seen in similar studies with guinea pigs, dogs, or monkeys. Several studies evaluating petroleum workers have not shown significant increases of kidney damage nor kidney or liver tumors.

115.	Strontium chromate	7789-06-2	None	50 ug/m³-A as chromium (Cr) 0.1 mg/m³-O as chromium (Cr)

May cause eye irritation with discomfort, tearing, or blurred vision. Health studies have shown that strontium chromate pigment manufacturing may be associated with an increased risk of lung cancer. Is an IARC, NTP or OSHA carcinogen.

116.	Hydrous magnesium silicate	14807-96-6	None	2 mg/m³-A respirable no asbestos 5 mg/m³-O no asbestos 2 mg/m³-D respirable, no asbestos
117.	Titanium dioxide	13463-67-7	None	10 mg/m³-A

In a lifetime inhalation test, lung cancers were found in some rats exposed to 250 mg/m³ respirable titanium dust. Analysis of the titanium dioxide concentrations in the rats' lungs showed that the lung clearance mechanism was overwhelmed and that the results at the massive 250 mg/m³ level are not relevant to the workplace.

Section X — Continued

Ingredient No.	Name	CAS No.	Vapor Pressure (mm Hg @ 20°C)	Exposure Limits
118.	Zinc chromate	13530-65-9	None	5 ug/m³-A as chromium (Cr) 0.1 mg/m³-A as chromium (Cr)

May cause eye irritation with discomfort, tearing, or blurred vision. Health studies have shown that zinc chromate pigment manufacturing may be associated with an increased risk of lung cancer. Is an IARC, NTP or OSHA carcinogen.

119.	Zinc oxide	1314-13-2	None	10 mg/m³-A
120.	Coal tar	68187-57-5	2	0.2 mg/m³-A 0.2 mg/m³-O

Repeated exposure to high concentrations may cause injury to the bone marrow and blood cells, kidney, liver and testes. Exposure of female laboratory animals has resulted in increased fetal mortality, delayed fetal development and birth defects. Repeated and/or prolonged overexposure to high concentrations may result in possible cardiovascular collapse. This product contains coal tar pitch. Volume 35 of the IARC monographs states that there is sufficient evidence that coal tar pitches are carcinogenic in humans. Additionally, there is sufficient evidence that occupational exposure to coal tars as it occurs during the destructive distillation of coal is casually associated with the occurrence of skin cancers in humans. Persons with a history of liver, kidney, skin or respiratory disease of exposure to materials harmful to these systems are at a greater than normal risk of developing adverse health effects when working with this product.

121.	Isobutanol	1330-20-7	8	50 ppm-A 100 ppm-O

May cause moderate eye burning.

Hazardous Ingredient Exposure Key: A = ACGIH, S = Supplier, D = Du Pont, O = OSHA

Notice: The data in this material safety data sheet relate only to the specific materials designated herein and do not relate to their use in combination with any other material or in any process unless specifically stated.

Product Manager
Maintenance Finishes

Section VIII — Special Protection Information

Respiratory: Do not breathe vapors or mists.
Wear an appropriate, properly fitted vapor/particulate respirator approved by NIOSH/MSHA (TC-23C) for use with paints during and after application unless air monitoring demonstrates vapor/mist levels are below applicable limits. Follow respirator manufacturer's directions for respirator use.
Ventilation: Provide sufficient ventilation in volume and pattern to keep contaminants below applicable OSHA requirements.
Protective clothing: Coveralls and neoprene gloves are recommended. Do not reuse coveralls while solvent odor is retained in them.
Eye protection: Desirable in all industrial situations. Goggles are preferred to prevent eye irritation. If safety glasses are worn, splash guards or side shields should be included.
Protective creams: May be used for ease of clean-up, not for protection.

Section IX — Special Precautions

Precautions to be taken in handling and storing. Observe label precautions. Keep away from heat, sparks and flame. Close container after each use. Ground containers when pouring. Wash thoroughly after handling and before eating and smoking. Do not store above 120°F.

Section X — Additional Information

Following is a summary of the ingredients in Section II and their known hazards.

Ingredient No.	Name	CAS NO.	Vapor Exposure (mm Hg @ 20°C)	Exposure Limits
1.	Butyl acetate	123-86-4	8	150 ppm-A 150 ppm-O
	Extremely high concentrations have caused blood changes and weakness in laboratory animals.			
2.	N-Butyl alcohol	71-36-3	4	50 ppm-A ceiling 100 ppm-O 25 ppm-D 50 ppm-D 15 mins.
	May cause moderate eye burning.			
3.	Acetone	67-64-1	186	750 ppm-A 1000 ppm-O
4.	Methyl ethyl ketone	78-93-3	95	200 ppm-A 200 ppm-O
	High concentrations have caused embryotoxic effects in laboratory animals. Methyl ethyl ketone has been demonstrated to potentiate (i.e., shorten the time of onset) the peripheral neuropathy caused by either N-hexane or Methyl N-butyl ketone. MEK by itself has not been demonstrated to cause peripheral neuropathy.			
5.	Diacetone alcohol	123-42-2	1	50 ppm-A 50 ppm-O
6.	Methyl isoamyl ketone	110-12-3	4.5	50 ppm-A
	Extremely high oral doses in laboratory animals have shown weight changes in various organs such as the liver, kidney and adrenal gland. In addition liver injury was observed.			
7.	Methyl alcohol	67-56-1	125	200 ppm-A skin 200 ppm-O 200 ppm-D 8 Hr TWA, skin 100 ppm-D 12 Hr TWA, skin
	Excessive human exposure to methanol may lead to: Fatigue, headache, anaesthetic, neurologic effects, and visual difficulties including blindness or death. Can be absorbed through the skin in harmful amounts. Recurrent overexposure may result in liver and kidney injury.			
8.	Methyl isobutyl ketone	108-10-1	15	50 ppm-A 150 ppm-O
	May cause abnormal kidney function.			
9.	Toluene	108-88-3	29	100 ppm-A 200 ppm-O
	Tests in animals have shown liver, bone marrow and kidney effects.			
10.	Isopropyl alcohol	67-63-0	44	400 ppm-A 400 ppm-O
	May cause eye irritation with discomfort, tearing, or blurred vision. Ingestion studies on laboratory animals showed that very high oral doses caused increased liver and kidney weights. High oral doses have caused anemia in laboratory animals.			
11.	2-Ethoxyethyl acetate	111-15-9	17	5 ppm-A skin 200 ppm-O skin 10 ppm-D skin
	Repeated exposure to high concentrations may cause injury to the bone marrow and blood cells, kidney, liver and testes. Exposure of female laboratory animals has resulted in *increased fetal mortality, delayed fetal development and birth* defects.			
12.	Mixed dibasic esters	None	14	10mg/m³-D
	May cause eye irritation with discomfort, tearing, or blurred vision. High airborne levels in rats have shown mild injury to the olfactory region of the nose.			
13.	Propylene glycol monomethyl ether acetate	108-65-6	3.8	None
	Can be absorbed through the skin in harmful amounts. May cause moderate eye burning.			
14.	Ethylene glycol monobutyl ether acetate	112-07-2	0.3	25 ppm-S 20 ppm-D skin
	Can be absorbed through the skin in harmful amounts. May destroy red blood cells. May cause abnormal kidney function.			

Section X — Additional Information — Continued

Ingredient No.	Name	CAS NO.	Vapor Exposure (mm Hg @ 20°C)	Exposure Limits
15.	Xylene	1330-20-7		100 ppm-A 100 ppm-O

High concentrations have caused embryotoxic effects in laboratory animals. Recurrent overexposure may result in liver and kidney injury. Can be absorbed through the skin in harmful amounts.

16.	Aromatic hydrocarbon	64742-95-6	10	50 ppm-D
17.	Aromatic hydrocarbon	64742-94-5	10	100 ppm-D
18.	VM & P Naphtha	64742-89-8	45	300 ppm-A 100 ppm-D

Laboratory studies with rats have shown that petroleum distillates cause kidney damage and kidney or liver tumors. These effects were not seen in similar studies with guinea pigs, dogs, or monkeys. Several studies evaluating petroleum workers have not shown significant increases of kidney damage nor kidney or liver tumors.

19.	Medium mineral spirits	64742-88-7	45	100 ppm-A 500 ppm-O 100 ppm-D

Laboratory studies with rats have shown that petroleum distillates cause kidney damage and kidney or liver tumors. These effects were not seen in similar studies with guinea pigs, dogs, or monkeys. Several studies evaluating petroleum workers have not shown significant increases of kidney damage nor kidney or liver tumors.

Exposure Limit Key:
A = ACGIH D = DU PONT O = OSHA S = SUPPLIER

Notice: The data in this Material Safety Data Sheet relate only to the specific materials designated herein and do not relate to their use in combination with any other material or in any process unless specifically stated.

Product Manager
Maintenance Finishes

MSDS NO. MF 50.0

DUPONT
REG. U.S. PAT. & TM. OFF.

MATERIAL SAFETY DATA SHEET

MAINTENANCE FINISHES
November 18, 1985

DRY BULK MATERIALS

(USE FOR PRODUCTS SUCH AS GANICIN® ZINC DUST, NON-SLIP ADDITIVES, ETC.)

Section I

Manufacturer
E. I. du Pont de Nemours & Company, Inc.
Finishes & Fabricated Products Department
Wilmington, DE 19898
Telephone: Product information (800) 441-7515
Medical emergency (800) 441-3637
Transportation emergency (800) 424-9300
(CHEMTREC)

Product: Dry bulk paint additives

Section II — Hazardous Ingredient Listing

This section lists all products sold in this classification and the hazardous ingredients in each. For specific information regarding the hazard(s) associated with each ingredient, refer to Section X. If you have a material not specifically designated below, check the label for the list of ingredients and then refer to Section X.

Product Code	Hazardous Ingredients
347-Y-B910	1
347-Y-B912	1
347-Y-B931	1
347-Y-B937	1, 2, 3
347-Y-B971	1, 4
347-Y-B973	1
VM-5596	5

Section III — Physical Data

Evaporation rate: Not applicable

Vapor density: Not applicable

Solubility in water: None

Percent volatile by volume: 0

Approximate boiling range: Not applicable

Percent volatile by weight: 0

Gallon weight: 56 lbs. typical

Section IV — Fire & Explosion Data

Flash point (Method): Not applicable.

Extinguishing media: Foam, carbon dioxide, dry chemical. Avoid water for zinc containing products.

Special fire fighting procedures: Full protective equipment, including self-contained breathing apparatus, is recommended.

Unusual fire and explosion hazards: Zinc dust reacts with water to produce hydrogen. Bulk zinc dust, when damp, may ignite spontaneously in air. When dampened in a confined space, an explosive concentration of hydrogen may form. For other dry organic materials, dust clouds can form explosive mixtures in air.

Section V — Health Hazard Data

Inhalation: Overexposure may cause nose and throat irritation. Zinc oxide fumes may result from combustion of zinc dust. Excessive inhalation of these fumes may produce symptoms known as metal fever or "Zinc Shakes", an acute, self-limiting condition without recognized complications or after affects. Symptoms usually disappear within 24 hours. These materials are combined with other paint products. Read the appropriate MSDS for the product to which this will be added.
If affected by inhalation of vapor or spray mist, remove to fresh air. If not breathing, give artificial respiration, preferrably mouth to mouth. If breathing difficulty persists, or occurs later, consult a physician.

Skin or eye contact: May cause eye irritation with discomfort, tearing or blurred vision.
In case of eye contact, immediately flush with plenty of water for at least 15 minutes; call a physician.
In case of skin contact, wash with soap and water. If irritation occurs, contact a physician.

Section VI — Reactivity Data

Stability: Stable

Incompatibility (materials to avoid): Zinc — water, acids, alkalis.
All others — none reasonably foreseeable.

Hazardous decomposition products: CO, CO_2, smoke, oxides of heavy metals reported in Section X.

Hazardous polymerization: Will not occur.

Section VII — Spill or Leak Procedures

Steps to be taken in case material is released or spilled: Prohibit smoking. Avoid sparks. Remove sources of ignition. Avoid dusting.

Waste Disposal Method: Dispose in dry closed containers in accordance with federal, state and local requirements.

Section VIII — Special Precaution Information

Respiratory: Do not breathe fumes or dusts. Wear an appropriate, properly fitted respirator (NIOSH/MSHA approved) during and after application.

Ventilation: Provide sufficient ventilation in volume and pattern to keep contaminants below applicable OSHA requirements.

Protective clothing: Coveralls and gloves are recommended.

Eye protection: Goggles are preferred to prevent eye irritation. If safety glasses are substituted, include splash guards or side shields.

Protective creams: May be used for ease of clean up, not for protection.

Section IX — Special Precautions

Precautions to be taken in handling and storing. Observe label precautions. Keep away from heat, sparks and flame. Close container after each use. Ground containers when pouring. Wash thoroughly after handling and before eating and smoking. Do not store above 120°F.

Other precautions: Do not sand, flame cut, braze or weld dry coating without NIOSH/MSHA approved respirator or appropriate ventilation.

Section X — Additional Information

Following is a summary of the ingredients listed in Section II and their known hazards.

Ingredient No.	Name	CAS No.	Vapor Pressure (mm Hg @ 20°C)	Exposure Limits
1.	Zinc Dust	7440-66-6	None	None
2.	Iron Oxide	1309-37-1	None	None
3.	Mica	12001-26-2	None	3 mg/m³-A respirable 3 mg/m³-O respirable
4.	Red lead	1314-41-6	None	150 µg/m³-A as lead (Pb) 50 µg/m³-O as lead (Pb)
5.	Crushed walnut shells	None	None	5 mg/m³-A respirable

Repeated and prolonged overexposure may lead to chronic ung disease.

Overexposure to lead may cause adverse effects to the blood forming, nervous, urinary and reproductive systems including embryotoxic effects. Symptoms may include loss of appetite, anemia, disturbance of sleep and fatigue. See OSHA Lead Standard 29CFR1910.1025.

Exposure Limit Key: A = ACGIH O = OSHA

Notice: The data in this Material Safety Data Sheet relate only to the specific materials designated herein and do not relate to their use in combination with any other material or in any process unless specifically stated.

Product Manager
Maintenance Finishes

Printed in U.S.A.

MSDS NO. MF 60.0

DUPONT
REG. U.S. PAT. & TM. OFF.

MAINTENANCE FINISHES
November 18, 1985

MATERIAL SAFETY DATA SHEET

PAINT ADDITIVES

Section I

Manufacturer
E. I. du Pont de Nemours & Company, Inc.
Finishes & Fabricated Products Department
Wilmington, DE 19898
Telephone: Product information (800) 441-7515
Medical emergency (800) 441-3637
Transportation emergency (800) 424-9300 (CHEMTREC)

Product: Miscellaneous paint additives.

Section II — Hazardous Ingredient Listing

This section lists all products sold in this classification and the hazardous ingredients in each. For specific information regarding the hazard(s) associated with each ingredient, refer to Section X. If you have a material not specifically designated below, check the label for the list of ingredients and then refer to Section X.

Product Code	Flash Point °F (Closed Cup)	Hazardous Ingredients
69CM	138	12, 13, 16
81CM	138	11; 12, 13
82CM	138	12, 13, 14
83CM	138	11, 12, 13
84CM	138	12, 13
89CM	138	12, 13
99CM	138	12, 13
167CM	138	12, 13, 17
171CM	138	13, 17
172CM	138	12, 13, 15
VD-1287	> 100	4, 9, 11
VD-E-56433	> 100	4, 7, 9, 8, 18
VH-Y-260	94	2, 3
VH-Y-691	< 73	1, 2
VM-8195	< 100	4, 5, 6, 10

Section III — Physical Data

Evaporation rate: Slower than ether
Solubility in water: Slight — Moderate
Approximate boiling range: 160-400°F
Vapor density: Heavier than air
Percent volatile by volume: 65% typical
Gallon weight: 10.5 lbs. typical

Section IV — Fire & Explosion Data

Approximate flammable limits: 1-14%.
Extinguishing media: Foam, carbon dioxide, dry chemical.
Special fire fighting procedures: Full protective equipment, including self-contained breathing apparatus, is recommended. Water from fog nozzles may be used to cool closed containers to prevent pressure build up.
Unusual fire and explosion hazards: When heated above the flash point, emits flammable vapors which, when mixed with air, can burn or be explosive. Fine mists or sprays may be flammable at temperatures below the flash point.

Section V — Health Hazard Data (See also Section X)

Ingestion: Gastro-intestinal distress.
In the unlikely event of ingestion, call a physician immediately and have names of ingredients available.
Inhalation: Overexposure may cause nose and throat irritation. May cause central nervous system effects such as dizziness, headache, nausea, staggering gait, confusion and unconsciousness. Reports have associated repeated and prolonged overexposure to solvents with permanent brain and nervous system damage.
If affected by inhalation of vapor or spray mist, remove to fresh air. If not breathing, give artificial respiration, preferably mouth to mouth. If breathing difficulty persists, or occurs later, consult a physician.
Skin or eye contact: May cause eye irritation or burning of the eyes. Repeated or prolonged liquid contact may cause skin irritation with discomfort and dermatitis.
In case of eye contact, immediately flush with plenty of water for at least 15 minutes; call a physician.
In case of skin contact, wash with soap and water. If irritation occurs, contact a physician.

Section VI — Reactivity Data

Stability: Stable
Incompatibility (materials to avoid): none reasonably foreseeable.
Hazardous decomposition products: CO, CO_2, smoke, oxides of heavy metals reported in Section X.
Hazardous polymerization: Will not occur.

Section VII — Spill or Leak Procedures

Steps to be taken in case material is released or spilled: Ventilate area. Prevent skin contact and breathing of vapor. Confine and remove with inert absorbent.
Waste disposal method: Do not allow material to contaminate ground water systems. Send to hazardous waste water treatment or incinerate absorbed material in accordance with federal, state and local requirements. Do not incinerate in closed containers.

Section VIII — Special Precaution Information

Respiratory: Do not breathe vapors or mists. Wear a properly fitted vapor/particulate respirator approved by NIOSH/MSHA (TC-23C) for use with paints during application and until all vapors and spray mist are exhausted. Follow the respirator manufacturer's directions for respirator use.
Ventilation: Provide sufficient ventilation in volume and pattern to keep contaminants below applicable OSHA requirements.
Protective clothing: Gloves and coveralls are recommended.
Eye protection: Desirable in all industrial situations. Goggles are preferred to prevent eye irritation. If safety glasses are worn, splash guards or side shields should be included.
Protective creams: May be used for ease of clean-up, not for protection.

Section IX — Special Precautions

Precautions to be taken in handling and storing: Observe label precautions. Keep away from heat, sparks and flame. Close container after each use. Ground containers when pouring. Wash thoroughly after handling and before eating and smoking. Do not store above 120°F.

Other precautions: Do not sand, flame cut, braze or weld dry coating without NIOSH/MSHA approved respirator or appropriate ventilation.

Section X — Additional Information

Following is a summary of the ingredients listed in Section II and their known hazards.

Ingredient No.	Name	CAS No.	Vapor Pressure (mm Hg @ 20°C)	Exposure Limits
1.	Ethyl acetate	141-78-6	74	400 ppm-A 400 ppm-O

Prolonged and repeated high exposures of laboratory animals resulted in secondary anemia with an increase in white blood cells; fatty degeneration, cloudy swelling and an excess of blood in various organs.

2.	Dibutyl tin dilaurate	77-58-7	None	0.1 mg/m³-A as tin (Sn) 0.1 mg/m³-O as tin (Sn)

Causes eye corrosion and permanent injury. Contact may cause skin burns. Can be absorbed through the skin in harmful amounts.

3.	Pentan-edione	123-54-6	7	None
4.	Medium mineral spirits	64742-88-7	45	100 ppm-A 500 ppm-O 100 ppm-D

Laboratory studies with rats have shown that petroleum distillates cause kidney damage and kidney or liver tumors. These effects were not seen in similar studies with guinea pigs, dogs, or monkeys. Several studies evaluating petroleum workers have not shown significant increases of kidney damage nor kidney or liver tumors.

5.	n, n dimethyl dodecyl amine	112-18-5		

Contact may cause skin irritation with discomfort or rash. Prolonged skin contact may cause chemical burns. Causes eye corrosion and permanent injury.

6.	Xylene	1330-20-7	25	100 ppm-A 100 ppm-O

High concentrations have caused embryotoxic effects in laboratory animals. Recurrent overexposure may result in liver and kidney injury. Can be absorbed through the skin in harmful amounts.

7.	Methyl ethyl ketoxime	96-29-7		None

Inhibits alcohol metabolism.

8.	Cobalt naphthenate		None	50 ug/m³-A 0.1 mg/m³-O

Contact may cause skin irritation with discomfort or rash.

9.	Manganese napthenate	None	None	5 mg/m³-O 5 mg/m³-O

Contact may cause skin irritation with discomfort or rash.

10.	Non-hazardous polymer	None	None	None
11.	Lead naphthenate	7439-92-1	None	150 ug/m³-A

Overexposure to lead may cause adverse effects to the blood forming, nervous, urinary, reproductive systems including embryotoxic effects. Symptoms may include loss of appetite, anemia, disturbance of sleep and fatigue. See OSHA Lead Standard 29CFR1910.1025. Can be absorbed through the skin in harmful amounts.

12.	Butoxy ethanol	111-76-2	0.6	25 ppm-A skin 50 ppm-O skin 10 ppm-D skin

Can be absorbed through the skin in harmful amounts. May cause injury to the kidneys, liver, blood and/or bone marrow. Repeated overexposure may result in damage to the blood. Eye contact may cause corneal injury.

13.	140°F flash solvent	64742-47-8	45	100 ppm-A

Laboratory studies with rats have shown that petroleum distillates cause kidney damage and kidney or liver tumors. These effects were not seen in similar studies with guinea pigs, dogs, or monkeys. Several studies evaluating petroleum workers have not shown significant increases of kidney damage nor kidney or liver tumors.

14.	Chromate oxide	7440-47-3	None	.5 mg/m³-A as chromium (Cr)
15.	Titanium dioxide	13463-67-7	None	10 mg/m³-A

In a lifetime inhalation test, lung cancers were found in some rats exposed to 250 mg/m³ respirable titanium dust. Analysis of the titanium dioxide concentrations in the rats' lungs showed that the lung clearance mechanism was overwhelmed and that the results at the massive 250 mg/m³ level are not relevant to the workplace.

16.	Iron oxide		None	
17.	Morpho-line	110-91-8	None	20 ppm-A

Causes severe eye irritation.

18.	Aromatic hydrocarbon	64742-95-6	10	50 ppm-D

Exposure Limit Key:
A = ACGIH O = OSHA D = Du Pont S = Supplier

Notice: The data in this Material Safety Data Sheet relate only to the specific materials designated herein and do not relate to their use in combination with any other material or in any process unless specifically stated.

Product Manager
Maintenance Finishes

Printed in U.S.A.

MSDS NO. MF 70.0

DUPONT
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MATERIAL SAFETY DATA SHEET

WATER BASED FINISHES

MAINTENANCE FINISHES
November 18, 1985

Section I

Manufacturer
E. I. du Pont de Nemours & Company, Inc.
Finishes & Fabricated Products Department
Wilmington, DE 19898
Telephone: Product information (800) 441-7515
Medical emergency (800) 441-3637
Transportation emergency (800) 424-9300
(CHEMTREC)

Product: Latex Paints.
D.O.T. Hazard Class: Not regulated.

Section II — Hazardous Ingredient Listing

This section lists all Du Pont Maintenance and Transportation Finishes waterbased paints and the hazardous ingredients in each. For specific information regarding the hazard(s) associated with each ingredient, refer to Section X. If you have a Du Pont Maintenance and Transportation Finishes water based paint not specifically designated below, check the label for the list of ingredients and then refer to Section X.

Product Code	Hazardous Ingredients
310-Y-204 (53C)	1, 2, 3, 6, 14, 21
310-Y-293 (1961C)	1, 2, 3, 6, 14, 15
310-Y-294 (1962C)	1, 2, 3, 6, 14, 15
310-Y-296 (1964C)	1, 2, 6, 14, 15
310-Y-462	1, 2, 3, 6, 14, 21
310-Y-463	1, 2, 3, 6, 14, 21
310-Y-602 (231C)	1, 2, 3, 6, 14, 21
310-Y-603 (249C)	1, 2, 3, 6, 14, 21
310-Y-604 (1300C)	1, 2, 3, 6, 14, 21
310-Y-605 (1301C)	1, 2, 3, 6, 14, 21
310-Y-606 (1302C)	1, 2, 3, 6, 14, 21
310-Y-607 (1305C)	1, 2, 3, 6, 14, 21
310-Y-608 (1307C)	1, 2, 3, 6, 8, 14
310-Y-615 (1318C)	1, 2, 6, 8, 14
310-Y-622 (1323C)	1, 2, 6, 8, 12, 14
310-Y-5101	1, 2, 3, 6, 14
310-Y-13059	1, 2, 3, 6, 8, 14
311-Y-802 (1861C)	1, 3, 4, 5, 6, 7
311-Y-805 (1864C)	1, 4, 5, 8
315-Y-502 (1801C)	1, 6, 8, 9, 10, 11
315-Y-539 (1809C)	1, 6, 8, 9, 12
315-Y-540	
315-Y-543 (1800C)	1, 3, 6, 9, 13
347-Y-A971	1, 22
347-Y-A973	1, 23
389Y-172	1, 6, 12, 18
389-Y-187	1, 6, 18, 19
389-Y-268	1, 2, 3, 6, 19
389-Y-370 (1941C)	1, 3, 6, 9
389-Y-371 (1942C)	1, 3, 5, 6, 9
389-Y-372 (1944C)	1, 3, 5, 6, 9
392-Y-745 (1931C)	1, 2, 3, 6, 15, 16, 17
392-Y-746 (1932C)	1, 2, 3, 6, 16
392-Y-901 (2360C)	1, 3, 6, 19, 20
392-Y-902 (2361C)	1, 3, 6, 19, 20
392-Y-911 (2379C)	1, 3, 6, 19, 20
392-Y-929 (2386C)	1, 3, 6, 19, 20
394-Y-260	
394-Y-801 (1699C)	1, 3, 5, 6, 9
394-Y-802 (1661C)	1, 3, 5, 6, 9, 11
394-Y-811 (1679C)	1, 3, 5, 6, 9
394-Y-818 (1688C)	1, 3, 5, 6, 9
394-Y-830 (1629C)	1, 3, 5, 6, 9
394-Y-838 (1603C)	1, 3, 5, 6, 9
830-Y-5011	1, 3, 6, 12, 17, 19
830-Y-5014	1, 3, 6, 8, 11, 17, 19

Section III — Physical Data

Evaporation rate: Slower than ether
Approximate boiling range: 212-230°F
Percent volatile by volume: 70% typical
Solubility in water: Complete
Vapor density: Heavier than air
Gallon weight: 10 lbs. typical

Section IV — Fire and Explosion Data

Flash point (Method): Above 200°F, will not support combustion.
Extinguishing media: Not applicable.
Special fire fighting procedures: Full protective equipment, including self-contained breathing apparatus, is recommended. Water from fog nozzles may be used to cool closed containers to prevent pressure build up.

Section V — Health Hazard Data (See also Section X)

Ingestion: Gastro-intestinal distress.
In the unlikely event of ingestion, call a physician immediately and have names of ingredients available.
Inhalation: Normally not a hazard unless sprayed, then primarily a nuisance dust. May contain small amounts of solvent (see sections II & X). If affected by inhalation of vapor or spray mist, remove to fresh air. If not breathing, give artificial respiration, preferably mouth-to-mouth. If breathing difficulty persists, or occurs later, consult a physician.
Skin or eye contact: May cause irritation or burning of the eyes. Repeated or prolonged liquid contact may cause skin irritation with discomfort and dermatitis.
In case of eye contact, immediately flush with plenty of water for at least 15 minutes; call a physician.

Section VI — Reactivity Data

Stability: Stable.
Incompatibility (materials to avoid): None reasonably foreseeable.
Hazardous polymerization: Will not occur.

Section VII — Spill or Leak Procedures

Steps to be taken in case material is released or spilled: Ventilate area. Prevent skin contact and breathing of vapor. Confine and remove with inert absorbant.

Section VII — Spill or Leak Procedures — Continued

Waste disposal method: Do not allow material to contaminate ground water systems. Send to hazardous waste water treatment or incinerate absorbed material in accordance with federal, state and local requirements. Do not incinerate in closed containers.

Section VIII — Special Precaution Information

Respiratory: For spray in all but extremely confined spaces, wear a properly fitted vapor/particulate respirator approved by NIOSH/MSHA (TC-23C) for use with paints during application and until all vapors and spray mist are exhausted. Follow respirator manufacturer's directions for respirator use. For brush and roll application, respiratory protection is not normally required.

Ventilation: Provide sufficient ventilation in volume and pattern to keep below applicable OSHA requirements.

Protective clothing: Gloves and coveralls are recommended.

Eye protection: Desirable in all industrial situations. Goggles are preferred to prevent eye irritation. If safety glasses are worn, splash guards or side shields should be included.

Protective creams: May be used for ease of clean-up, not for protection.

Section IX — Special Precautions

Precautions to be taken in handling and storing: Observe label precautions. Wash thoroughly after handling and before eating and smoking.

Other precautions: Do not sand, flame cut, braze or weld dry coating without NIOSH/MSHA approved respirator or appropriate ventilation.

Section X — Additional Information

Following is a summary of the ingredients listed in Section II and their known hazards.

Ingredient No.	Name	CAS No.	Vapor Pressure (mm Hg @ 20°C)	Exposure Limits
1.	Water	7732-18-5	18	None
2.	Hydrous magnesium silicate	14807-96-6	None	2 mg/m³-A no asbestos 5 mg/m³-O no asbestos 2 mg/m³-D no asbestos

Repeated and prolonged overexposure to talc may lead to typical x ray changes and chronic lung disease.

3.	Titanium dioxide	13463-67-7	None	10 mg/m³-A

In a lifetime inhalation test, lung cancers were found in some rats exposed to 250 mg/m³ respirable titanium dust. Analysis of their titanium dioxide concentrations in the rats' lungs showed that the lung clearance mechanism was overwhelmed and that the results at the massive 250 mg/m³ level are not relevant to the workplace.

4.	Silicone resin	None	None	None
5.	Aluminum silicate slurry	58425-86-8	18	2 mg/m³-A no asbestos 5 mg/m³-O no asbestos 2 mg/m³-D no asbestos

Repeated and prolonged overexposure to talc may lead to typical x ray changes and chronic lung disease.

6.	Non-hazardous polymer	None	None	None
7.	Amorphous silica	7631-86-9	None	10 mg/m³-A 15 mg/m³-O 6 mg/m-D
8.	Iron oxide	1309-37-1	None	None
9.	Propylene glycol	57-55-6	0.1	10 mg/m³-D

High doses in laboratory animals have shown non specific effects such as irritation, weight loss, and moderate blood changes.

10.	Ammonia	1336-21-6	755	25 ppm-A 50 ppm-O

Contact may cause skin burns. Causes eye corrosion and permanent injury. May cause temporary upper respiratory and/or lung irritation with cough, difficulty breathing, or shortness of breath.

11.	Non-hazardous organic pigment	None	None	None
12.	Carbon black	1333-86-4	None	3.5 mg/m³-A 3.5 mg/m³-O
13.	Methyl 1-(butyl-carbamoyl) 2-benzi-midazole	17804-35-2	None	5 mg/m³-D

Benomyl has caused liver tumors in mice in a lifetime feeding study. This effect was not seen in rats and dogs.

14.	Mica	12001-26-2	None	3 mg/m³-A 3 mg/m³-O
15.	Sodium poly-carboxylate	None	None	None
16.	Medium mineral spirits	64742-88-7	45	100 ppm-D

Laboratory studies with rats have shown that petroleum distillates cause kidney damage and kidney or liver tumors. These effects were not seen in similar studies with guinea pigs, dogs, or monkeys. Several studies evaluating petroleum workers have not shown significant increases of kidney damage nor kidney or liver tumors.

17.	Ethylene glycol	107-21-1	0.1	50 ppm-A ceiling 10 mg/m³-O

Has been shown to produce dose related teratogenic effects in rats and mice when given orally in high concentrations.

Section X — Additional Information — Continued

Ingredient No.	Name	CAS No.	Vapor Pressure (mm Hg @ 20°C)	Exposure Limits
18.	Organo	None	None	None
19.	Non-hazardous inorganic pigment	None	None	None
20.	Diatomaceous earth	7631-86-9	None	10 mg/m³-A
21.	Barium metaborate	None	None	None
22.	Sodium silicate	1344-09-8	None	None
23.	Potassium silicate	1312-76-1	None	None

Repeated and prolonged overexposure may lead to chronic lung disease.

Key to Exposure Limits: A = ACGIH O = OSHA
D = Du Pont S = Supplier

Notice: The data in this material safety data sheet relate only to the specific materials designated herein and do not relate to their use in combination with any other material or in any process unless specifically stated.

Product Manager
Maintenance Finishes

MATERIAL SAFETY DATA SHEET

NPCA 1

FOR COATINGS, RESINS AND RELATED MATERIALS

(Approved by U S Department of Labor Essentially Similar to Form OSHA-20)

DATE OF PREP 3/14/83

Section I

MANUFACTURER'S NAME Bender's Wholesale Dist., Inc.

STREET ADDRESS 1027 S. Main Street CITY, STATE, AND ZIP CODE Elkhart, IN 46515

EMERGENCY TELEPHONE NO. (219) 293-0531

PRODUCT CLASS Aerosol Paint MANUFACTURER'S CODE IDENTIFICATION IF0E002

TRADE NAME Bender's Silicone Lubricant

Section II — HAZARDOUS INGREDIENTS

INGREDIENT	PERCENT	TLV PPM	TLV mg/m³	LEL	VAPOR PRESSURE
Heptane	55.7	500	2,045	1.20	Aerosol
Trichloroethylene	17.2	100	535	1.10	Cans 40
Propane	10.0	---	-----	1.90	PSI @
Isobutane	10.0	---	-----	2.30	70°F

Section III — PHYSICAL DATA

BOILING RANGE NA VAPOR DENSITY [X] HEAVIER, [ ] LIGHTER THAN AIR

EVAPORATION RATE [X] FASTER [ ] SLOWER, THAN ETHER PERCENT VOLATILE BY VOLUME 85 WEIGHT PER GALLON NA

Section IV — FIRE AND EXPLOSION HAZARD DATA

DOT CATEGORY FLASH POINT Aerosol -10°F LEL See 1

EXTINGUISHING MEDIA Use carbon dioxide dry chemical or foam.

UNUSUAL FIRE AND EXPLOSION HAZARDS Exposure to heat may cause bursting of aerosol can.

SPECIAL FIRE FIGHTING PROCEDURES Water spray may be ineffective. Water may be used to cool containers to prevent bursting. If water is used, fog nozzles are preferable. Wear goggles and self contained breathing apparatus.

Section V — HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE See 11

EFFECTS OF OVEREXPOSURE Inhalation anesthetic irritation of the respiratory tract or acute nervous system depression characterized by headache, dizziness, staggering gait, confusion, unconciousness or coma.

Skin or eye contact.

EMERGENCY AND FIRST AID PROCEDURES Fumes - Remove from exposure, restore breathing, keep warm and quiet. Notify physician. Eyes - Flush with copious quantities of running water for at least 15 minutes, take to physician for medical treatment. Skin - Remove with soap and water, remove contaminated clothing.

Section VI — REACTIVITY DATA

STABILITY ☐ UNSTABLE ☒ STABLE CONDITIONS TO AVOID

INCOMPATABILITY (Materials to avoid) NA

HAZARDOUS DECOMPOSITION PRODUCTS May produce hazardous fumes when heated to decomposition. Fumes may contain carbon monoxide.

HAZARDOUS POLYMERIZATION ☐ MAY OCCUR ☐ WILL NOT OCCUR

CONDITIONS TO AVOID NA

Section VII — SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED Remove all sources of ignition, avoid breathing vapors, ventilate area.

WASTE DISPOSAL METHOD DO NOT INCINERATE AEROSOL, dispose of in accordance with local, state and federal regulations.

Section VIII — SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION Avoid continuous breathing of vapors and spray mist.

VENTILATION Use with adequate ventilation.

PROTECTIVE GLOVES

EYE PROTECTION

OTHER PROTECTIVE EQUIPMENT

Section IX — SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING Do not store above 120°F. Exposure to heat or prolonged exposure to sun may cause bursting.

OTHER PRECAUTIONS

Fel-Pro Incorporated
7450 N. McCormick Blvd.
Box C1103
Skokie, Illinois 60076
Phone: (312) 761-4500 and 674-7700

MATERIAL SAFETY DATA SHEET

2116-85

Essentially similar to U.S. Dept. of Labor Form No. LSB-00S-4, May 1969.

SECTION I

MANUFACTURER'S NAME	EMERGENCY TELEPHONE NO.
Fel-Pro Incorporated	(312) 674-7700
ADDRESS (Number, Street, City, State and ZIP Code)	
7450 N. McCormick Blvd., Skokie, Illinois 60076	
CHEMICAL NAME AND SYNONYMS: Not applicable -- Mixture	TRADE NAME AND SYNONYMS: Pro Lock Stud Type
CHEMICAL FAMILY: Polyfunctional dimethacrylate monomers	FORMULA: Not applicable -- Mixture

SECTION II—HAZARDOUS INGREDIENTS

PAINTS, PRESERVATIVES, AND SOLVENTS	%	TLV (Units)	ALLOYS AND METALLIC COATINGS	%	TLV (Units)
PIGMENTS			BASE METAL		
CATALYST			ALLOYS		
VEHICLE			METALLIC COATINGS		
SOLVENTS			FILLER METAL PLUS COATING OR CORE FLUX		
ADDITIVES			OTHERS		
OTHERS					

HAZARDOUS MIXTURES OF OTHER LIQUIDS, SOLIDS, OR GASES	%	TLV (Units)
o-Benzoic sulfimide (Saccharin), a suspect carcinogen per NTP.	2.3	none
Balance of product is essentially polyfunctional dimethacrylate esters,		listed
and contains no ingredients considered hazardous per U.S. Department of Labor		
O.S.H.A. criteria re: 29CFR 1910.1200 Hazard Communications Law.		

SECTION III—PHYSICAL DATA

BOILING POINT (°F.) @ 1mmHg	~ 500°F	SPECIFIC GRAVITY (H_2O=1)	1.09
VAPOR PRESSURE (mmHg.)	Nil	PERCENT VOLATILE BY VOLUME (%)	< 0.5%
VAPOR DENSITY AIR=1)	Not Applicable	EVAPORATION RATE (.....=1)	Not Applicable
SOLUBILITY IN WATER	Insoluble		
APPEARANCE AND ODOR	Red liquid, mild pleasant odor.		

SECTION IV—FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (Method Used)	FLAMMABLE LIMITS	Lel	Uel
Not applicable, material polymerizes above 200°F	Not applicable	---	---

EXTINGUISHING MEDIA: Use water fog, dry chemicals, foam, CO_2.

SPECIAL FIRE FIGHTING PROCEDURES: Wear self-contained breathing apparatus when fighting fires in confined areas. Use eye protection. Use above extinguishing media.

UNUSUAL FIRE AND EXPLOSION HAZARDS: Excessive heat may cause rapid polymerization, resulting in container rupture. CO, CO_2 and incompletely burned hydrocarbons are released through pyrolysis.

SECTION V—HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE
None established.

EFFECTS OF OVEREXPOSURE
Possible redness or irritation of skin or eyes upon prolonged or repeated contact, especially in sensitive individuals.

EMERGENCY AND FIRST AID PROCEDURES
On skin-wash with soap and water. If irritation occurs, consult physician. In eyes-flush with tepid water 15 minutes holding eyelids apart. Consult physician. Inhalation-remove to fresh air, keep keep warm and quiet, consult physician. Ingestion-do not induce vomiting, consult physician immediatel

SECTION VI—REACTIVITY DATA

STABILITY	UNSTABLE		CONDITIONS TO AVOID: Exposure to temperatures above room temperature will
	STABLE	X	adversely affect shelf life.

INCOMPATABILITY (Materials to avoid)
Strong oxidizing or reducing agents (i.e., peroxides, permanganates, etc.)

HAZARDOUS DECOMPOSITION PRODUCTS
Refer to section IV "Unusual Fire and Explosion Hazards"

HAZARADOUS POLYMERIZATION	MAY OCCUR		CONDITIONS TO AVOID: Above 200°F, material will undergo rapid
	WILL NOT OCCUR	X	polymerization.

SECTION VII—SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED
Dike and absorb spill on inert absorbent material. Place in disposal container. Complete cleanup using strong detergent and water, or chlorinated solvent cleaner with adequate ventilation. Remove and launder contaminated clothing.

WASTE DISPOSAL METHOD
Use controlled incineration or bury in a posted toxic substances landfill in accordance with Federal, State and Local Regulations.

SECTION VIII—SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (Specify type)
None required with adequate ventilation.

VENTILATION	LOCAL EXHAUST: Preferred (50 f.p.m.)	SPECIAL: None
	MECHANICAL (General): Acceptable (50 f.p.m.)	OTHER: None

PROTECTIVE GLOVES
Use impervious polyethylene gloves*

EYE PROTECTION
Safety glasses or goggles sufficient to prevent contact.

OTHER PROTECTIVE EQUIPMENT
Coveralls or apron* may be used to help avoid contact and maintain cleanliness.

* Do not use PVC or ABS plastic.

SECTION IX—SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING
Use normal storage and handling. Store away from excessive heat which will shorten shelf life.

OTHER PRECAUTIONS
Keep out of reach of children.

Revised: 10-18-85 John Michna

PRINTED IN U.S.A.

Form No. 03-65

SPARTAN CHEMICAL CO., INC.
MATERIAL SAFETY DATA SHEET

SECTION I
PRODUCT IDENTIFICATION

PRODUCT NAME OR NUMBER (as it appears on label)
BH-38

MANUFACTURER'S NAME
Spartan Chemical Co., Inc.

EMERGENCY TELEPHONE NO.
(419) 531-5551

ADDRESS (NUMBER, STREET, CITY, STATE AND ZIP CODE)
110 N. Westwood Ave., Toledo, OH 43607

MANUFACTURER'S D-U-N-S NO.
00-503-6728

HAZARDOUS MATERIAL DESCRIPTION, PROPER SHIPPING NAME, HAZARD CLASS, HAZARD ID NO. (49 CFR 172.101)
Unrestricted

ADDITIONAL HAZARD CLASSES (AS APPLICABLE)
n/a

CHEMICAL FAMILY
n/a

FORMULA
n/a

SECTION II - HAZARDOUS INGREDIENTS

CAS REGISTRY NO.	%W	CHEMICAL NAME(S)	TLV	LISTED AS A CARCINOGEN IN NTP, IARC OR OSHA 1910(Z) (SPECIFY)
111-76-2	5-10	Butoxyethanol	120 mg/M^3	no

SECTION III - PHYSICAL DATA

BOILING POINT
212 °F ___ °C

SPECIFIC GRAVITY (H_2O = 1)
1.045

VAPOR PRESSURE 18
@ 75 °F ___ °C x mm Hg ___ psi

PERCENT SOLID BY WEIGHT (%) - 5-10

VAPOR DENSITY (AIR = 1)
Unknown

EVAPORATION RATE (but. ace. = 1)
<1

SOLUBILITY IN WATER
Complete

APPEARANCE AND ODOR
Pink, nonviscous, mild solvent odor

pH
12.0-12.4

IS MATERIAL: (LIQUID) SOLID
GAS PASTE POWDER

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT METHOD USED - ASTM - D92 FLAMMABLE LIMITS - n/a LEL UEL
None °F °C

EXTINGUISHING MEDIA
n/a

SPECIAL FIRE FIGHTING PROCEDURES
n/a

UNUSUAL FIRE AND EXPLOSION HAZARDS
n/a

SECTION V - HEALTH HAZARD DATA

EFFECTS OF OVEREXPOSURE - CONDITIONS TO AVOID — THRESHOLD LIMIT VALUE - Not established

ryness of skin with prolonged contact; dizziness with excessive breathing of vapors.

PRIMARY ROUTES OF ENTRY INHALATION x SKIN CONTACT x OTHER (SPECIFY)

CONDITIONS AGGRAVATED BY USE - Unknown

EMERGENCY AND FIRST AID PROCEDURES - Flush eyes or skin for at least 15 minutes with plenty of water. If irritation persists, call a physician. If swallowed, induce vomiting immediately by giving two glasses of water and sticking finger down throat. Never give anything by mouth to an unconscious person. Call a physician.

SECTION VI - REACTIVITY DATA

STABILITY: UNSTABLE ____ CONDITIONS TO AVOID
STABLE x

INCOMPATIBILITY (MATERIALS TO AVOID)
Strong oxidizing agents.

HAZARDOUS DECOMPOSITION PRODUCTS
None known

HAZARDOUS POLYMERIZATION: MAY OCCUR ____ WILL NOT OCCUR x CONDITIONS TO AVOID

SECTION VII - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED
lush through normal sanitary sewer system with large amounts of water.

WASTE DISPOSAL METHOD
Same as above.

SECTION VIII - SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (SPECIFY TYPE)
None

VENTILATION: LOCAL EXHAUST (SPECIFY RATE) - X — SPECIAL
MECHANICAL (GENERAL) (SPECIFY RATE) — OTHER

PROTECTIVE GLOVES (SPECIFY TYPE)
Solvent resistant

EYE PROTECTION (SPECIFY TYPE)
Safety glasses

OTHER PROTECTIVE EQUIPMENT
None necessary

SECTION IX - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING
Nothing special

OTHER PRECAUTIONS - None

Spartan Chemical Co., Inc.
BH-38
Ref: 29 CFR 1910:1200 (OSHA)

NAME Thomas J. Mitchell
TITLE Assistant Vice President, Research
DATE Ausust 7, 1985

NORTON

MATERIAL SAFETY DATA SHEET

Flammability Rating: 0
Health Rating: 0
Reactivity Rating: 0
HAZARD RATING
Please rate consistent with NFPA Code

SECTION I NAME AND PRODUCT

MANUFACTURER'S NAME NORTON COMPANY	CONTACT THOMAS Z. RICHARDS
ADDRESS (STREET, CITY, STATE AND ZIP CODE) 1 NEW BOND STREET, WORCESTER, MA 01606-2698	EMERGENCY TELEPHONE NO. 617-795-2690
TRADE NAME, COMMON NAME OR SPECIFICATION VITRIFIED BONDED ABRASIVE PRODUCTS	APPROVED BY RBStrock DATE 6-20-86
CHEMICAL FAMILY OR PRODUCT TYPE ANY GRADE	

SECTION II COMPOSITION PER 29CFR 1910.1200 (G) (4)

CHEMICAL NAME	MAX %	COMMON NAME	REG* (Y/N)	CAS #	OSHA PERMISSIVE EXPOSURE LIMIT	ACGIH TLV	CARC OGEI (Y/N
Alpha Alumina	96	Alundum	Y	1344-28-1	15mg/m³ (Total Dust)	10mg/m³ (Total Dust)	N
Silicon Carbide	96	Crystolon	Y	409-21-2	15mg/m³ (Total Dust)	10mg/m³ (Total Dust)	N
No. 12 Treatment	23	Paraffin Wax	N	**NAIF	See Section VI		N
No. 5 & 6 Treatment	16	Rosin Wax Mixture	N	**NAIF	See Section VI		N
Sulfur Treatment	41	Sulfur	Y	7704-34-9	**NAIF	**NAIF	N

Note: Wheel Treatments range from 9 to 43% concentration based on wheel weight.

*Materials are regulated by OSHA 29 CFR 1910.1200, Hazard Communication Standard, and/or the Massachusetts General Law Chapter 111F, Right To Know Regulations.

SECTION III PHYSICAL AND CHEMICAL DATA

BOILING POINT **NAIF	MELTING POINT **NAIF	SPECIFIC GRAVITY 2-4
VAPOR PRESSURE **NAIF	PERCENT VOLATILE BY VOL **NAIF	VAPOR DENSITY **NAIF
EVAPORATION RATE **NAIF	SOLUBILITY IN WATER Slight	SOLUBILITY IN ALCOHOL **NAI
SOLUBILITY IN OTHER SOLVENT **NAIF	APPEARANCE AND ODOR SOLID PRODUCT: MAY GIVE OFF ODOR IN USE.	

SECTION IV SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE – NONE.

OTHER PRECAUTIONS:

**NAIF.

SECTION V CORROSIVITY AND REACTIVITY DATA

STABILITY UNSTABLE ☐ STABLE ☒ POLYMERIZATION MAY OCCUR ☐ WILL NOT OCCUR ☒

INCOMPATABILITY (MATERIALS TO AVOID)

Avoid acids of all types with a PH < = 4.0

DECOMPOSITION PRODUCTS

use, dusts are generated. In most cases, the airborne material removed from the workpiece will be significantly greater than the grinding wheel components. Coolants may produce other decomposition products.

CONDITIONS TO BE AVOIDED

**NAIF

NAIF = NO APPLICABLE INFORMATION FOUND * N/A = NOT APPLICABLE

SECTION VI HEALTH, FIRST AID AND MEDICAL DATA

RIMARY ROUTE(S) F ENTRY	ACUTE AND CHRONIC HEALTH EFFECTS AND EFFECTS OF OVEREXPOSURE	FIRST AID AND MEDICAL INFORMATION
NHALATION DURING GRINDING)	ACUTE: COUGHING, SHORTNESS OF BREATH. CHRONIC: MAY AFFECT BREATHING CAPACITY.	REMOVE TO FRESH AIR. ARTIFICIAL RESPIRATION AS NEEDED OBTAIN MEDICAL ASSISTANCE.
NGESTION DURING GRINDING)	NO KNOWN ADVERSE EFFECTS, BUT INGESTION NOT RECOMMENDED.	OBTAIN MEDICAL ASSISTANCE.
KIN CONTACT & ABSORPTION DURING GRINDING)	SOME MAY EXPERIENCE SKIN IRRITATION FROM DUST.	WASH AFFECTED AREAS WITH SOAP AND WATER. OBTAIN MEDICAL ASSISTANCE.
YE DURING GRINDING)	DUSTS MAY IRRITATE EYES.	WASH WITH LARGE AMOUNTS OF WATER. OBTAIN FIRST AID AND MEDICAL ASSISTANCE, IF NEEDED.
THER POTENTIAL EALTH RISKS DURING GRINDING)	GRINDING MAY CREATE ELEVATED SOUND LEVELS WHICH MAY AFFECT HEARING.	OBTAIN MEDICAL ASSISTANCE.

SECTION VII STORAGE, HANDLING AND USE PROCEDURES

ORMAL STORAGE AND HANDLING
EE ANSI STANDARD B7.1.

ORMAL USE
ANDLE WITH ADEQUATE VENTILATION. SEE OSHA 29CFR1910.94 (VENTILATION) and
9CFR1910.1000 (AIR CONTAMINATES)

TEPS TO BE TAKEN IN CASE OF LEAKS OR SPILLS.
ORMAL CLEANUP PROCEDURES.

ASTE DISPOSAL METHOD
TANDARD LANDFILL METHODS CONSISTENT WITH APPLICABLE FEDERAL, STATE AND LOCAL LAWS.
RODUCTS WITH LISTED FLOURIDES MAY HAVE SLIGHTLY SOLUBLE FLOURIDE SWARF.

SECTION VIII PERSONAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (SPECIFY TYPE) AS NEEDED. FOR APPROVED DUST RESPIRATORS SEE OSHA 29CFR1910.134.

ENTILATION	LOCAL RECOMMENDED	
	MECHANICAL (GENERAL)	RECOMMENDED
	OTHER	**NAIF

ROTECTIVE GLOVES	AS DESIRED BY USER
YE PROTECTION	RECOMMENDED SEE OSHA 29CFR1910.133
THER EQUIPMENT	AS NEEDED HEARING PROTECTION SEE OSHA 29CFR1910.215 (HEARING PROTECTION)

EASURES TO BE TAKEN DURING REPAIR AND MAINTENANCE OF CONTAMINATED EQUIPMENT THAT HAS BEEN IN CONTACT WITH THIS MATERIAL.
SEE SECTIONS VII & VIII

SECTION IX FIRE AND EXPLOSION HAZARD DATA

LASH POINT **NAIF	(METHOD USED ***N/A	FLAMMABLE LIMITS LEL N/A UEL ***N/A
XTINGUISHING MEDIA	USE WATER	
PECIAL FIRE FIGHTING PROCEDURES	NONE	
XPLOSION POTENTIAL **NAIF		

FOR COMPANY USE

The information and recommendations set forth herein are taken from sources believed to be accurate as of the date hereof; however, Norton Company makes no warranty with respect to the accuracy of the information or the suitability of the recommendations, and assumes no liability to any user thereof.

NORTON

MATERIAL SAFETY DATA SHEET

Flammability Rating: 0
Health Rating: 1
Reactivity Rating: 0
HAZARD RATING
Please rate consistent with NFPA Code

SECTION I NAME AND PRODUCT

MANUFACTURER'S NAME NORTON COMPANY	CONTACT THOMAS Z. RICHARDS
ADDRESS (STREET, CITY, STATE AND ZIP CODE) 1 NEW BOND STREET, WORCESTER, MA 01606-2698	EMERGENCY TELEPHONE NO. 617-795-2690
TRADE NAME, COMMON NAME OR SPECIFICATION RUBBER & SHELLAC BONDED GRINDING WHEELS	APPROVED BY DATE 6/18/86
CHEMICAL FAMILY OR PRODUCT TYPE ANY GRADE	

SECTION II COMPOSITION PER 29CFR 1910.1200 (G) (4)

CHEMICAL NAME	MAX %	COMMON NAME	REG* (Y/N)	CAS #	OSHA PERMISSIVE EXPOSURE LIMIT	ACGIH TLV	CARCINOGEN (Y/N)
Silene (Total Dust)	2	***N/A	Y	63231-67-4	1.5mg/m³	5mg/m³	N
Sulfur	8	Sulfur	Y	7704-34-9	**NAIF	**NAIF	N
Fluorides (as F)	2	***N/A	Y	***N/A	2.5mg/m³	2.5mg/m³	N
Zinc Oxide (as fume)	15	***N/A	Y	1314-13-2	5mg/m³	5mg/m³	N
Iron Oxide (as fume)	23	***N/A	Y	1309-37-1	10mg/m³	5mg/m³	N
Carbon Black	11	***N/A	Y	1333-86-4	3.5mg/m³	3.5mg/m³	N
Dibutyl Phthalate	1	***N/A	Y	84-74-2	5mg/m³	5mg/m³	N
Methyl Tuads	1	***N/A	Y	137-26-8	**NAIF	5mg/m³	N
The chemicals listed above may be a part of the bond system. The grinding wheel may be comprised of one or more of the following abrasives.							
Alpha Alumina	90	Alundum	Y	1344-28-1	10mg/m³ (Total Dust)	10mg/m³ (Total Dust)	N
Silicon Carbide	90	Crystolon	Y	409-21-1	10mg/m³ (Total Dust)	10mg/m³ (Total Dust)	N
Zirconium Oxide	90	Zirconia	Y	**NAIF	5mg/m³	5mg/m³	N

*Materials are regulated by OSHA 29 CFR 1910.1200, Hazard Communication Standard, and/or the Massachusetts General Law Chapter 111F, Right To Know Regulations.

SECTION III PHYSICAL AND CHEMICAL DATA

BOILING POINT **NAIF	MELTING POINT **NAIF	SPECIFIC GRAVITY 2-4
VAPOR PRESSURE **NAIF	PERCENT VOLATILE BY VOL **NAIF	VAPOR DENSITY **NAIF
EVAPORATION RATE **NAIF	SOLUBILITY IN WATER Slight	SOLUBILITY IN ALCOHOL **NAIF
SOLUBILITY IN OTHER SOLVENT **NAIF	APPEARANCE AND ODOR SOLID PRODUCT: MAY GIVE OFF ODOR IN USE.	

SECTION IV SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE – NONE.
OTHER PRECAUTIONS:
**NAIF

SECTION V CORROSIVITY AND REACTIVITY DATA

STABILITY UNSTABLE ☐ STABLE ☒ POLYMERIZATION MAY OCCUR ☐ WILL NOT OCCUR ☒

INCOMPATABILITY (MATERIALS TO AVOID)
**NAIF

DECOMPOSITION PRODUCTS
In use, dust and decomposing resin system fumes are generated. In most cases, the material removed from the workpiece will be significantly greater than the grinding wheel components. Coolants may produce other decomposition products.

CONDITIONS TO BE AVOIDED
**NAIF

NAIF = NO APPLICABLE INFORMATION FOUND * N/A = NOT APPLICABLE

SECTION VI HEALTH, FIRST AID AND MEDICAL DATA

PRIMARY ROUTE(S) OF ENTRY	ACUTE AND CHRONIC HEALTH EFFECTS AND EFFECTS OF OVEREXPOSURE	FIRST AID AND MEDICAL INFORMATION
INHALATION (DURING GRINDING)	ACUTE: COUGHING, SHORTNESS OF BREATH. CHRONIC: MAY AFFECT BREATHING CAPACITY.	REMOVE TO FRESH AIR. ARTIFICIAL RESPIRATION AS NEEDED OBTAIN MEDICAL ASSISTANCE.
INGESTION (DURING GRINDING)	NO KNOWN ADVERSE EFFECTS, BUT INGESTION NOT RECOMMENDED.	OBTAIN MEDICAL ASSISTANCE.
SKIN CONTACT & ABSORPTION (DURING GRINDING)	SOME MAY EXPERIENCE SKIN IRRITATION FROM DUST.	WASH AFFECTED AREAS WITH SOAP AND WATER. OBTAIN MEDICAL ASSISTANCE.
EYE (DURING GRINDING)	DUSTS MAY IRRITATE EYES.	WASH WITH LARGE AMOUNTS OF WATER. OBTAIN FIRST AID AND MEDICAL ASSISTANCE, IF NEEDED.
OTHER POTENTIAL HEALTH RISKS (DURING GRINDING)	GRINDING MAY CREATE ELEVATED SOUND LEVELS WHICH MAY AFFECT HEARING.	OBTAIN MEDICAL ASSISTANCE.

SECTION VII STORAGE, HANDLING AND USE PROCEDURES

NORMAL STORAGE AND HANDLING
SEE ANSI STANDARD B7.1.

NORMAL USE
HANDLE WITH ADEQUATE VENTILATION. SEE OSHA 29CFR1910.94 (VENTILATION) and 29CFR1910.1000 (AIR CONTAMINATES)

STEPS TO BE TAKEN IN CASE OF LEAKS OR SPILLS.
NORMAL CLEANUP PROCEDURES.

WASTE DISPOSAL METHOD
STANDARD LANDFILL METHODS CONSISTENT WITH APPLICABLE FEDERAL, STATE AND LOCAL LAWS. PRODUCTS WITH LISTED FLOURIDES MAY HAVE SLIGHTLY SOLUBLE FLOURIDE SWARF.

SECTION VIII PERSONAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (SPECIFY TYPE) AS NEEDED. FOR APPROVED DUST RESPIRATORS SEE OSHA 29CFR1910.134

VENTILATION	LOCAL RECOMMENDED	
	MECHANICAL (GENERAL)	RECOMMENDED
	OTHER	**NAIF

PROTECTIVE GLOVES	AS DESIRED BY USER
EYE PROTECTION	RECOMMENDED SEE OSHA 29CFR1910.133
OTHER EQUIPMENT	AS NEEDED HEARING PROTECTION SEE OSHA 29CFR1910.215 (HEARING PROTECTION)

MEASURES TO BE TAKEN DURING REPAIR AND MAINTENANCE OF CONTAMINATED EQUIPMENT THAT HAS BEEN IN CONTACT WITH THIS MATERIAL.
SEE SECTIONS VII & VIII

SECTION IX FIRE AND EXPLOSION HAZARD DATA

FLASH POINT **NAIF	(METHOD USED ***N/A	FLAMMABLE LIMITS LEL N/A UEL ***N/A
EXTINGUISHING MEDIA	USE WATER	
SPECIAL FIRE FIGHTING PROCEDURES	NONE	
EXPLOSION POTENTIAL **NAIF		

FOR COMPANY USE

NORTON

MATERIAL SAFETY DATA SHEET

Flammability Rating: 0
Health Rating: 1
Reactivity Rating: 0
HAZARD RATING
Please rate consistent with NFPA Code

SECTION I NAME AND PRODUCT

MANUFACTURER'S NAME NORTON COMPANY	CONTACT THOMAS Z. RICHARDS
ADDRESS (STREET, CITY, STATE AND ZIP CODE) 1 NEW BOND STREET, WORCESTER, MA 01606-2698	EMERGENCY TELEPHONE NO. 617-795-2690
TRADE NAME, COMMON NAME OR SPECIFICATION ORGANIC BONDED GRINDING WHEELS	APPROVED BY DATE 6/18/86
CHEMICAL FAMILY OR PRODUCT TYPE ANY GRADE	

SECTION II COMPOSITION PER 29CFR 1910.1200 (G) (4)

CHEMICAL NAME	MAX %	COMMON NAME	REG* (Y/N)	CAS #	OSHA PERMISSIVE EXPOSURE LIMIT	ACGIH TLV	CARCINOGEN (Y/N)
Alpha-Alumina	90	Alundum	Y	1344-28-1	15mg/m³ (Total Dust)	10mg/m³ (Total Dust)	N
Silicon Carbide	90	Crystolon	Y	409-21-2	15mg/m³ (Total Dust)	10mg/m³ (Total Dust)	N
Zirconia Oxide	90	Zirconia	Y	**NAIF	5mg/m³	5mg/m³	N
The grinding wheel may be comprised of 1 or more of the above abrasives. The chemicals listed below may be a part of the bond system.							
Fluorides (as F)	3	***N/A	Y	***N/A	2.5mg/m³	2.5mg/m³	N
Calcium Oxide	3	Lime	Y	1305-78-8	5mg/m³	2mg/m³	N
Iron Disulphide	16	Pyrites	N	12068-85-8	**NAIF	**NAIF	N
Creosote Oil	<1	Carbosota	Y	8001-58-9	.2mg/m³	.2mg/m³	Y①
Barium Sulfate	11	Barytes	Y	7727-43-7	.5mg/m³	.5mg/m³	N
Glass, Fibrous or Dust	10	Fiberglass	Y	**NAIF	**NAIF	10mg/m³	N
Sulfur	8	Sulfur	Y	7704-34-9	**NAIF	**NAIF	N
Tin	9	Tin	Y	7440-31-5	2mg/m³	2mg/m³	N

*Materials are regulated by OSHA 29 CFR 1910.1200, Hazard Communication Standard, and/or the Massachusetts General Law Chapter 111F, Right To Know Regulations. ① Listed by NTP as a Carcinogen.

SECTION III PHYSICAL AND CHEMICAL DATA

BOILING POINT **NAIF	MELTING POINT **NAIF	SPECIFIC GRAVITY 2-4
VAPOR PRESSURE **NAIF	PERCENT VOLATILE BY VOL **NAIF	VAPOR DENSITY **NAIF
EVAPORATION RATE **NAIF	SOLUBILITY IN WATER Slight	SOLUBILITY IN ALCOHOL **NAIF
SOLUBILITY IN OTHER SOLVENT **NAIF	APPEARANCE AND ODOR SOLID PRODUCT: MAY GIVE OFF ODOR IN USE.	

SECTION IV SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE – NONE.

OTHER PRECAUTIONS:

This grinding wheel specification may contain a small amount (1% or less) of a creosote oil. Only trace amounts of this substance from the grinding wheel will be in the total materials released during grinding. The supplier of the raw creosote states that "prolonged and repeated skin exposure may result in skin cancer."

SECTION V CORROSIVITY AND REACTIVITY DATA

STABILITY UNSTABLE ☐ STABLE ☒ POLYMERIZATION MAY OCCUR ☐ WILL NOT OCCUR ☒

INCOMPATABILITY (MATERIALS TO AVOID)
**NAIF

DECOMPOSITION PRODUCTS
Use, dust and decomposing organic fumes are generated. In most cases, the material removed from the workpiece will be significantly greater than the grinding wheel components. Coolants may produce other decomposition products.

CONDITIONS TO BE AVOIDED
**NAIF

NAIF = NO APPLICABLE INFORMATION FOUND * N/A = NOT APPLICABLE

SECTION VI HEALTH, FIRST AID AND MEDICAL DATA

PRIMARY ROUTE(S) OF ENTRY	ACUTE AND CHRONIC HEALTH EFFECTS AND EFFECTS OF OVEREXPOSURE	FIRST AID AND MEDICAL INFORMATION
INHALATION (DURING GRINDING)	ACUTE: COUGHING, SHORTNESS OF BREATH. CHRONIC: MAY AFFECT BREATHING CAPACITY.	REMOVE TO FRESH AIR. ARTIFICIAL RESPIRATION AS NEEDED. OBTAIN MEDICAL ASSISTANCE.
INGESTION (DURING GRINDING)	NO KNOWN ADVERSE EFFECTS, BUT INGESTION NOT RECOMMENDED.	OBTAIN MEDICAL ASSISTANCE.
SKIN CONTACT & ABSORPTION (DURING GRINDING)	SOME MAY EXPERIENCE SKIN IRRITATION FROM DUST.	WASH AFFECTED AREAS WITH SOAP AND WATER. OBTAIN MEDICAL ASSISTANCE.
EYE (DURING GRINDING)	DUSTS MAY IRRITATE EYES.	WASH WITH LARGE AMOUNTS OF WATER. OBTAIN FIRST AID AND MEDICAL ASSISTANCE, IF NEEDED.
OTHER POTENTIAL HEALTH RISKS (DURING GRINDING)	GRINDING MAY CREATE ELEVATED SOUND LEVELS WHICH MAY AFFECT HEARING.	OBTAIN MEDICAL ASSISTANCE.

SECTION VII STORAGE, HANDLING AND USE PROCEDURES

NORMAL STORAGE AND HANDLING
SEE ANSI STANDARD B7.1.

NORMAL USE
HANDLE WITH ADEQUATE VENTILATION. SEE OSHA 29CFR1910.94 (VENTILATION) and 29CFR1910.1000 (AIR CONTAMINATES)

STEPS TO BE TAKEN IN CASE OF LEAKS OR SPILLS.
NORMAL CLEANUP PROCEDURES.

WASTE DISPOSAL METHOD
STANDARD LANDFILL METHODS CONSISTENT WITH APPLICABLE FEDERAL, STATE AND LOCAL LAWS. PRODUCTS WITH LISTED FLOURIDES MAY HAVE SLIGHTLY SOLUBLE FLOURIDE SWARF.

SECTION VIII PERSONAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (SPECIFY TYPE) AS NEEDED. FOR APPROVED DUST RESPIRATORS SEE OSHA 29CFR1910.134.

VENTILATION	LOCAL	RECOMMENDED
	MECHANICAL (GENERAL)	RECOMMENDED
	OTHER	**NAIF

PROTECTIVE GLOVES	AS DESIRED BY USER
EYE PROTECTION	RECOMMENDED SEE OSHA 29CFR1910.133
OTHER EQUIPMENT	AS NEEDED HEARING PROTECTION SEE OSHA 29CFR1910.215 (HEARING PROTECTION)

MEASURES TO BE TAKEN DURING REPAIR AND MAINTENANCE OF CONTAMINATED EQUIPMENT THAT HAS BEEN IN CONTACT WITH THIS MATERIAL.
SEE SECTIONS VII & VIII

SECTION IX FIRE AND EXPLOSION HAZARD DATA

FLASH POINT **NAIF	(METHOD USED ***N/A	FLAMMABLE LIMITS LEL N/A UEL ***N/A
EXTINGUISHING MEDIA	USE WATER	
SPECIAL FIRE FIGHTING PROCEDURES	NONE	
EXPLOSION POTENTIAL **NAIF		

FOR COMPANY USE

NORTON

MATERIAL SAFETY DATA SHEET

Rating

Health Rating: 1 | Reactivity Rating: 0

HAZARD RATING
Please rate consistent with NFPA Cod

SECTION I NAME AND PRODUCT

MANUFACTURER'S NAME NORTON COMPANY	CONTACT THOMAS Z. RICHARDS
ADDRESS (STREET, CITY, STATE AND ZIP CODE) 1 NEW BOND STREET, WORCESTER, MA 01606-2698	EMERGENCY TELEPHONE NO. 617-795-2690
TRADE NAME, COMMON NAME OR SPECIFICATION DIAMOND OR CUBIC BORON NITRIDE GRINDING WHEELS BOND TYPES B100, BX102, BX103, BX104, BX105, MX135, MX143, MX146, MX149, MX153, MX158, MX165, MX173, MX174, MX175, MX176, MX194, MX196, MX208, MX210, MX213, MX214, MX32, MX33, MX34, MX35, MX36, MX37, MX87, MX88, MX90	APPROVED BY B H Leinei DATE 6/18/86
CHEMICAL FAMILY OR PRODUCT TYPE ANY GRADE	

SECTION II COMPOSITION PER 29CFR 1910.1200 (G) (4)

CHEMICAL NAME	MAX %	COMMON NAME	REG* (Y/N)	CAS #	OSHA PERMISSIVE EXPOSURE LIMIT	ACGIH TLV	CARC OGE (Y/N
Copper	30	Copper	Y	7440-50-8	1mg/m³	1mg/m³	N
Tin	25	Tin	Y	7440-31-5	**NAIF	**NAIF	N
Graphite	25	Graphite	Y	7882-42-5	15MPPCF	5mg/m³ (Total Dust)	N
Calcium Oxide	5	Lime	Y	1305-78-8	5mg/m³	2mg/m³	N
Silicon Carbide	20	Crystolon	Y	409-21-2	15mg/m³ (Total Dust)	10mg/m³ (Total Dust)	N
Silver	15	Silver	Y	7440-22-4	.01mg/m³	.1mg/m³	N
luorides (as F)	10	***N/A	Y	***N/A	2.5mg/m³	2.5mg/m³	N
Cobalt	65	Cobalt	Y	7440-48-4	.1mg/m³	.1mg/m³	N
Chromium Salts (Trivalent)	7	Chromium	Y	16065-83-1	.1mg/m³	.05mg/m³	Y

Note: Listed chemicals may be a part of the bond system in the usable part of the wheel.

*Materials are regulated by OSHA 29 CFR 1910.1200, Hazard Communication Standard, and/or the Massachusetts General Law Chapter 111F, Right To Know Regulations. Ⓞ Listed by NTP as a Carcinogen.

SECTION III PHYSICAL AND CHEMICAL DATA

BOILING POINT **NAIF	MELTING POINT >220°C	SPECIFIC GRAVITY 2-4
VAPOR PRESSURE **NAIF	PERCENT VOLATILE BY VOL **NAIF	VAPOR DENSITY **NAIF
EVAPORATION RATE **NAIF	SOLUBILITY IN WATER Slight	SOLUBILITY IN ALCOHOL NAIF
SOLUBILITY IN OTHER SOLVENT **NAIF	APPEARANCE AND ODOR SOLID PRODUCT: MAY GIVE OFF ODOR IN USE.	

SECTION IV SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE – NONE.
OTHER PRECAUTIONS:
**NAIF

SECTION V CORROSIVITY AND REACTIVITY DATA

STABILITY UNSTABLE ☐ STABLE ☒ POLYMERIZATION MAY OCCUR ☐ WILL NOT OCCUR ☒

COMPATABILITY (MATERIALS TO AVOID)
**NAIF

DECOMPOSITION PRODUCTS
In use, dust and decomposing organic fumes are generated. In most cases, the material removed from the workpiece will be significantly greater than the grinding wheel components. Coolants may produce other decomposition products.

CONDITIONS TO BE AVOIDED
**NAIF

NAIF = NO APPLICABLE INFORMATION FOUND * N/A = NOT APPLICABLE

SECTION VI HEALTH, FIRST AID AND MEDICAL DATA

PRIMARY ROUTE(S) OF ENTRY	ACUTE AND CHRONIC HEALTH EFFECTS AND EFFECTS OF OVEREXPOSURE	FIRST AID AND MEDICAL INFORMATION
INHALATION (DURING GRINDING)	ACUTE: COUGHING, SHORTNESS OF BREATH. CHRONIC: MAY AFFECT BREATHING CAPACITY.	REMOVE TO FRESH AIR. ARTIFICIAL RESPIRATION AS NEEDED OBTAIN MEDICAL ASSISTANCE.
INGESTION (DURING GRINDING)	NO KNOWN ADVERSE EFFECTS, BUT INGESTION NOT RECOMMENDED.	OBTAIN MEDICAL ASSISTANCE.
SKIN CONTACT & ABSORPTION (DURING GRINDING)	SOME MAY EXPERIENCE SKIN IRRITATION FROM DUST.	WASH AFFECTED AREAS WITH SOAP AND WATER. OBTAIN MEDICAL ASSISTANCE.
EYE (DURING GRINDING)	DUSTS MAY IRRITATE EYES.	WASH WITH LARGE AMOUNTS OF WATER. OBTAIN FIRST AID AND MEDICAL ASSISTANCE, IF NEEDED.
OTHER POTENTIAL HEALTH RISKS (DURING GRINDING)	GRINDING MAY CREATE ELEVATED SOUND LEVELS WHICH MAY AFFECT HEARING.	OBTAIN MEDICAL ASSISTANCE.

SECTION VII STORAGE, HANDLING AND USE PROCEDURES

NORMAL STORAGE AND HANDLING
SEE ANSI STANDARD B7.1.

NORMAL USE
HANDLE WITH ADEQUATE VENTILATION. SEE OSHA 29CFR1910.94 (VENTILATION) and 29CFR1910.1000 (AIR CONTAMINATES)

STEPS TO BE TAKEN IN CASE OF LEAKS OR SPILLS.
NORMAL CLEANUP PROCEDURES.

WASTE DISPOSAL METHOD
STANDARD LANDFILL METHODS CONSISTENT WITH APPLICABLE FEDERAL, STATE AND LOCAL LAWS. PRODUCTS WITH LISTED FLOURIDES MAY HAVE SLIGHTLY SOLUBLE FLOURIDE SWARF.

SECTION VIII PERSONAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (SPECIFY TYPE) AS NEEDED. FOR APPROVED DUST RESPIRATORS SEE OSHA 29CFR1910.134.

VENTILATION	LOCAL	RECOMMENDED
	MECHANICAL (GENERAL)	RECOMMENDED
	OTHER	**NAIF

PROTECTIVE GLOVES AS DESIRED BY USER

EYE PROTECTION RECOMMENDED SEE OSHA 29CFR1910.133

OTHER EQUIPMENT AS NEEDED HEARING PROTECTION SEE OSHA 29CFR1910.215 (HEARING PROTECTION)

MEASURES TO BE TAKEN DURING REPAIR AND MAINTENANCE OF CONTAMINATED EQUIPMENT THAT HAS BEEN IN CONTACT WITH THIS MATERIAL.
SEE SECTIONS VII & VIII

SECTION IX FIRE AND EXPLOSION HAZARD DATA

FLASH POINT **NAIF (METHOD USED ***N/A FLAMMABLE LIMITS LEL N/A UEL ***N/A

EXTINGUISHING MEDIA USE WATER

SPECIAL FIRE FIGHTING PROCEDURES NONE

EXPLOSION POTENTIAL **NAIF

FOR COMPANY USE

NORTON

MATERIAL SAFETY DATA SHEET

Rating

Health Rating: 1 | Reactivity Rating: 0 | Flammability: 0

HAZARD RATING
Please rate consistent with NFPA Cod

SECTION I NAME AND PRODUCT

MANUFACTURER'S NAME NORTON COMPANY	CONTACT THOMAS Z. RICHARDS
ADDRESS (STREET, CITY, STATE AND ZIP CODE) 1 NEW BOND STREET, WORCESTER, MA 01606-2698	EMERGENCY TELEPHONE NO. 617-795-2690
TRADE NAME, COMMON NAME OR SPECIFICATION DIAMOND OR CUBIC BORON NITRIDE GRINDING WHEELS ALL OTHER BONDS	APPROVED BY DATE 4/18/86
CHEMICAL FAMILY OR PRODUCT TYPE ANY GRADE	

SECTION II COMPOSITION PER 29CFR 1910.1200 (G) (4)

CHEMICAL NAME	MAX %	COMMON NAME	REG* (Y/N)	CAS #	OSHA PERMISSIVE EXPOSURE LIMIT	ACGIH TLV	CARC OGE (Y/
Copper	75	Copper	Y	7440-50-8	1mg/m³	1mg/m³	N
Tin	25	Tin	Y	7440-31-5	**NAIF	**NAIF	N
Graphite	20	Graphite	Y	7782-42-5	15MPPCF	5mg/m³ (Total Dust)	N
Calcium Oxide	5	Lime	Y	1305-78-8	5mg/m³	2mg/m³	N
Silicon Carbide	20	Crystolon	Y	409-21-2	15mg/m³ (Total Dust)	10mg/m³ (Total Dust)	N
Nickel	20	Nickel	Y	7440-02-0	1mg/m³	1mg/m³	Y
Phosphorus	1	Phosphorus	Y	7723-14-0	.1mg/m³	.1mg/m³	N
Alpha-Alumina	30	Alundum	Y	1344-28-1	15mg/m³ (Total Dust)	10mg/m³ (Total Dust)	N
Manganese	5	Manganese	Y	7439-96-5	**NAIF	5mg/m³	N
Molybdenum	1	Molybdenum	Y	7439-98-7	15mg/m³	10mg/m³	N
Iron Oxide Fume	30	Iron Oxide	Y	1309-37-1	10mg/m³	5mg/m³	N
Silicon Powder	3	Silicon Powder	Y	7440-21-3	**NAIF	**NAIF	N
Note: Listed chemicals may be part of the bond system in the usable part of the wheel.							

*Materials are regulated by OSHA 29 CFR 1910.1200, Hazard Communication Standard, and/or the Massachusetts General Law Chapter 111F, Right To Know Regulations. ① Listed by NTP as a Carcinogen.

SECTION III PHYSICAL AND CHEMICAL DATA

BOILING POINT **NAIF	MELTING POINT >220°C	SPECIFIC GRAVITY 2-4
VAPOR PRESSURE **NAIF	PERCENT VOLATILE BY VOL **NAIF	VAPOR DENSITY **NAIF
EVAPORATION RATE **NAIF	SOLUBILITY IN WATER Slight	SOLUBILITY IN ALCOHOL **NAIF
SOLUBILITY IN OTHER SOLVENT **NAIF	APPEARANCE AND ODOR SOLID PRODUCT: MAY GIVE OFF ODOR IN USE.	

SECTION IV SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE – NONE.
OTHER PRECAUTIONS:
**NAIF

SECTION V CORROSIVITY AND REACTIVITY DATA

STABILITY UNSTABLE ☐ STABLE ☒ POLYMERIZATION MAY OCCUR ☐ WILL NOT OCCUR ☒

COMPATABILITY (MATERIALS TO AVOID)
**NAIF

DECOMPOSITION PRODUCTS
In use, dust and decomposing organic fumes are generated. In most cases, the material removed from the workpiece will be significantly greater than the grinding wheel components. Coolants may produce other decomposition products.

CONDITIONS TO BE AVOIDED
**NAIF

NAIF = NO APPLICABLE INFORMATION FOUND * N/A = NOT APPLICABLE

SECTION VI HEALTH, FIRST AID AND MEDICAL DATA

PRIMARY ROUTE(S) OF ENTRY	ACUTE AND CHRONIC HEALTH EFFECTS AND EFFECTS OF OVEREXPOSURE	FIRST AID AND MEDICAL INFORMATION
INHALATION (DURING GRINDING)	ACUTE: COUGHING, SHORTNESS OF BREATH. CHRONIC: MAY AFFECT BREATHING CAPACITY.	REMOVE TO FRESH AIR. ARTIFICIAL RESPIRATION AS NEEDED OBTAIN MEDICAL ASSISTANCE.
INGESTION (DURING GRINDING)	NO KNOWN ADVERSE EFFECTS, BUT INGESTION NOT RECOMMENDED.	OBTAIN MEDICAL ASSISTANCE.
SKIN CONTACT & ABSORPTION (DURING GRINDING)	SOME MAY EXPERIENCE SKIN IRRITATION FROM DUST.	WASH AFFECTED AREAS WITH SOAP AND WATER. OBTAIN MEDICAL ASSISTANCE.
EYE (DURING GRINDING)	DUSTS MAY IRRITATE EYES.	WASH WITH LARGE AMOUNTS OF WATER. OBTAIN FIRST AID AND MEDICAL ASSISTANCE, IF NEEDED.
OTHER POTENTIAL HEALTH RISKS (DURING GRINDING)	GRINDING MAY CREATE ELEVATED SOUND LEVELS WHICH MAY AFFECT HEARING.	OBTAIN MEDICAL ASSISTANCE.

SECTION VII STORAGE, HANDLING AND USE PROCEDURES

NORMAL STORAGE AND HANDLING
SEE ANSI STANDARD B7.1.

NORMAL USE
HANDLE WITH ADEQUATE VENTILATION. SEE OSHA 29CFR1910.94 (VENTILATION) and 29CFR1910.1000 (AIR CONTAMINATES)

STEPS TO BE TAKEN IN CASE OF LEAKS OR SPILLS.
NORMAL CLEANUP PROCEDURES.

WASTE DISPOSAL METHOD
STANDARD LANDFILL METHODS CONSISTENT WITH APPLICABLE FEDERAL, STATE AND LOCAL LAWS. PRODUCTS WITH LISTED FLOURIDES MAY HAVE SLIGHTLY SOLUBLE FLOURIDE SWARF.

SECTION VIII PERSONAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (SPECIFY TYPE) AS NEEDED. FOR APPROVED DUST RESPIRATORS SEE OSHA 29CFR1910.134.

VENTILATION	LOCAL RECOMMENDED	
	MECHANICAL (GENERAL)	RECOMMENDED
	OTHER	**NAIF

PROTECTIVE GLOVES	AS DESIRED BY USER
EYE PROTECTION	RECOMMENDED SEE OSHA 29CFR1910.133
OTHER EQUIPMENT	AS NEEDED HEARING PROTECTION SEE OSHA 29CFR1910.215 (HEARING PROTECTION)

MEASURES TO BE TAKEN DURING REPAIR AND MAINTENANCE OF CONTAMINATED EQUIPMENT THAT HAS BEEN IN CONTACT WITH THIS MATERIAL.
SEE SECTIONS VII & VIII

SECTION IX FIRE AND EXPLOSION HAZARD DATA

FLASH POINT **NAIF	(METHOD USED ***N/A	FLAMMABLE LIMITS LEL N/A UEL ***N/A
EXTINGUISHING MEDIA	USE WATER	
SPECIAL FIRE FIGHTING PROCEDURES	NONE	
EXPLOSION POTENTIAL **NAIF		

FOR COMPANY USE

NORTON COMPANY

1 NEW BOND STREET
WORCESTER, MA 01606-2698
(617) 795-5000

June 25, 1986

Dear Valued Customer:

In compliance with the Federal Hazard Communication Standard 29.CFR.1910.1200, we enclose five Material Safety Data Sheets for grinding wheels. The basic wheel categories include:

Vitrified Bonded Abrasive Products
Rubber or Shellac Bonded Abrasive Products
Organic Bonded Abrasive Products
Diamond or Cubic Boron Nitride Abrasive Products

The MSDS sheets contain complete generic information required by the Federal regulation. This does not mean all materials listed are present in all abrasives or bonds. Information will be provided for a designated specification upon request.

The MSDS sheets provided should be forwarded to the individual responsible for plant safety.

Thomas Z. Richards
Manager, Product Safety
Grinding Wheel Operations

eml

CALGON VESTAL LABORATORIES
DIVISION OF CALGON CORPORATION

Prepared: 03/10/87

M A T E R I A L S A F E T Y D A T A S H E E T

I - PRODUCT IDENTIFICATION

(75A)557-22A/K5

Manufacturer's Name: Calgon Vestal Laboratories Division of Calgon Corp.

Addr: 5035 Manchester Ave., St. Louis, Missouri 63110 | Tel No:(314) 535-1810

TRADE NAME: Vesta Power | Product No.: 8258

Synonyms: Aqueous Liquid Detergent/Degreaser | VBLOC*: 3601/3602

DOT Proper Shipping Name: Cleaning Compound Liquid

STCC**: 4936515

II - HAZARDOUS INGREDIENTS OF MIXTURES

MATERIAL:	% By Wt.	TLV	PEL
According to the OSHA Hazard Communication Standard, 29 CFR 1910.1200, this product contains no hazardous ingredients.	N/A	N/A	N/A

III- PHYSICAL DATA

Vapor Pressure, mm hg @ 20 C N/A	Vapor Density (Air=1) 60-90 F
Evaporation Rate (ether=1) N/A	% Volatile by wt @ 105 C/ 1 hrs 90-91
Solubility in H20 Complete	pH @ 1+3 Solution 12.4
Freezing Point F Circa 32 F	pH as Distributed 13
Boiling Point F @ 14.7 psig Apx.212	Appearance Clear, purple liquid
Specific Gravity H20=1 @ 25C 1.05	Odor Near odorless

IV - FIRE AND EXPLOSION

Flash Point F None (Closed Cup) To Boil	Autoignition Temperature N/A	Flammable (Explosive) Limits N/A

Extinguishing Media: Suitable for surrounding area - water, dry chemical, foam, CO2

Special Fire Fighting Procedures: N/A

Unusual Fire and Explosion Hazards: N/A

V - EMERGENCY AND FIRST AID PROCEDURES

Routes of Entry/Medical Conditions Aggravated By Exposure

Eyes: Flush eyes w/flowing water for 15 min. & call a physician.

Skin: Rinse affected area thoroughly w/flowing water.

Inhalation: N/A

Ingestion: Give large quantities of water or milk followed by vinegar or lemon juice & immediately contact a physician.

Overexposure Effects: Product is an eye irritant. Not a primary skin irritant by FHSA. Acute oral LD50(rats) >5000 mg/kg. Contains no known carcinogens.

MATERIAL SAFETY DATA SHEET

VI - REACTIVITY DATA

75A/557-22A(K5) Vesta Power

Conditions Contributing to Instability: None

Incompatibility: None known

Hazardous Decomposition Products: Forced ignition of dried residues may produce CO, CO2, nitrogen oxides

Conditions Contributing to Hazardous Polymerization: Will not occur

VII - SPILL OR LEAK PROCEDURES

Steps to be taken If Material Is Released or Spilled: Small spills may be mopped up & residues flushed to the sewer with water. Rinse mop before storing.

Neutralizing Chemicals: May be neutralized w/dilute acetic acid.

Waste Disposal Methods: Dispose spent solutions in accordance w/local regulations.

VIII - SPECIAL PROTECTION INFORMATION

Respiratory:	Eye:	Glove:
N/A	Goggles or face shield	For manual cleaning

Other Clothing and Equipment: N/A

Ventilation: Normal room ventilation.

IX - SPECIAL PRECAUTIONS

Precautions to be taken in Handling and Storing: This product will WITHSTAND AN OCCASIONAL ACCIDENTAL FREEZING without loss in its normal performance characteristics. It must be thoroughly thawed & agitated (roll drum) before being used. Store in heated area below 135 F.

Other Precautions:

Read and observe labelled use instructions.

Prepared by: Destin A. LeBlanc Title: Director, Product Development

While Seller believes that the information contained herein is accurate, such information is offered solely for its customers' consideration and verification under their specific use conditions. This information is not to be deemed a warranty or representation of any kind for which Seller assumes legal responsibility.

*Vestal Bill of Lading Code **Standard Transportation Commodity Code

VESTAL LABORATORIES, INC. Prepared: 12/15/86

M A T E R I A L S A F E T Y D A T A S H E E T

I - PRODUCT IDENTIFICATION

(75A)557-22A/K5

Manufacturer's Name: Vestal Laboratories, Inc., A Subsidiary of Chemed Corp.

Addr: 5035 Manchester Ave., St. Louis, Missouri 63110 | Tel No: (314) 535-1810

TRADE NAME: Vesta Power | Product No.: 8258

Synonyms: Aqueous Liquid Detergent/Degreaser | VBLOC*: 3601/3602

DOT Proper Shipping Name: Cleaning Compound Liquid

STCC**: 4936515

II - HAZARDOUS INGREDIENTS OF MIXTURES

MATERIAL:	% By Wt.	TLV	PEL
According to the OSHA Hazard Communication Standard, 29 CFR 1910.1200, this product contains no hazardous Ingredients.	N/A	N/A	N/A

III- PHYSICAL DATA

Vapor Pressure, mm hg @ 20 C N/A	Vapor Density (Air=1) 60-90 F
Evaporation Rate (ether=1) N/A	% Volatile by wt @ 105 C/ 1 hrs 90-91
Solubility in H20 Complete	pH @ 1+3 Solution 12.4
Freezing Point F Circa 32 F	pH as Distributed 13
Boiling Point F @ 14.7 psig Apx.212	Appearance Clear, purple Liquid
Specific Gravity H20=1 @ 25C 1.05	Odor Near odorless

IV - FIRE AND EXPLOSION

Flash Point F None (Closed Cup) To Boil	Autoignition Temperature N/A	Flammable (Explosive) Limits N/A

Extinguishing Media: Suitable for surrounding area - water, dry chemical, foam, CO2

Special Fire Fighting Procedures: N/A

Unusual Fire and Explosion Hazards: N/A

V - EMERGENCY AND FIRST AID PROCEDURES

Routes of Entry/Medical Conditions Aggravated By Exposure

Eyes: Flush eyes w/flowing water for 15 min. & call a physician.

Skin: Rinse affected area thoroughly w/flowing water.

Inhalation: N/A

Ingestion: Give large quantities of water or milk followed by vinegar or lemon juice & Immediately contact a physician.

Overexposure Effects: Product is an eye irritant. Not a primary skin Irritant by FHSA. Acute oral LD50(rats) >5000 mg/kg. Contains no known carcinogens.

MATERIAL SAFETY DATA SHEET

VI - REACTIVITY DATA

75A/557-22A(K5) Vesta Power

Conditions Contributing to Instability: None

Incompatibility: None known

Hazardous Decomposition Products: Forced ignition of dried residues may produce CO, CO2, nitrogen oxides

Conditions Contributing to Hazardous Polymerization: Will not occur

VII - SPILL OR LEAK PROCEDURES

Steps to be taken if Material Is Released or Spilled: Small spills may be mopped up & residues flushed to the sewer with water. Rinse mop before storing.

Neutralizing Chemicals: May be neutralized w/dilute acetic acid.

Waste Disposal Methods: Dispose spent solutions in accordance w/local regulations.

VIII - SPECIAL PROTECTION INFORMATION

Respiratory:	Eye:	Glove:
N/A	Goggles or face shield	For manual cleaning

Other Clothing and Equipment: N/A

Ventilation: Normal room ventilation.

IX - SPECIAL PRECAUTIONS

Precautions to be taken in Handling and Storing: This product will WITHSTAND AN OCCASIONAL ACCIDENTAL FREEZING without loss in its normal performance characteristics. It must be thoroughly thawed & agitated (roll drum) before being used. Store in heated area below 135 F.

Other Precautions:

Read and observe labelled use instructions.

Prepared by: Destin A. LeBlanc Title: Director, Product Development

While Seller believes that the information contained herein is accurate, such information is offered solely for its customers' consideration and verification under their specific use conditions. This information is not to be deemed a warranty or representation of any kind for which Seller assumes legal responsibility.

Vestal Bill of Lading Code **Standard Transportation Commodity Code
ISD8258/MSDTXTSRC/VESTAL

A Division of Calgon Corporation
5035 Manchester Ave.
St. Louis, Missouri 63110
Tel:(314) 535-1810

03/10/87

JACKSON INC
55217 MARINA DR
ELKHART IN 46514

To Whom it may concern:

Please find enclosed Material Safety Data Sheet(s) as required by the recent revision in the OSHA Hazard Communication Standard.

VESTAL ORDER_NO	PRODUCT NUMBER	PRODUCT_DESCRIPTION
LA124	8258	VESTA POWER

Please direct the Material Safety Data Sheet(s) to your proper department(s). Thank you for letting Vestal service you.

Sincerely,

Destin A. LeBlanc

Director, Product Development

MATERIAL SAFETY DATA SHEET

FOR COATINGS, RESINS AND RELATED MATERIALS

DATE OF PREP 2/20/86

(Approved by U.S. Department of Labor. Essentially Similar to Form OSHA-20)

Section I

MANUFACTURER'S NAME
Bender's Wholesale Dist., Inc.

STREET ADDRESS
1027 S. Main Street

CITY, STATE, AND ZIP CODE
Elkhart, IN 46516

EMERGENCY TELEPHONE NO
(219) 293-0531

PRODUCT CLASS
Aerosol - Vinyl Toluene Alkyd Enamel

MANUFACTURER'S CODE IDENTIFICATION
IG0E003

TRADE NAME
Bender's Flat Black Spray Paint

Section II — HAZARDOUS INGREDIENTS

INGREDIENT	PERCENT	TLV PPM	TLV mg/m³	LEL	VAPOR PRESSURE
Toluene (108-88-3) (PEL - See bottom of this section)	8.16	100.0	375.0	1.27	Vapor Pressure Aerosol Cans 40 P.S.I. @ 70° F.
Acetone (67-64-1)	29.73	750.0	1,780.0	2.60	
Mineral Spirits (109-73-9)	.16			.70	
Varnish Makers & Painter Naphtha (8030-30-6)	6.11	300.0	1,350.0	1.10	
Xylene (1330-20-7)	5.29	100.0	435.0	1.00	
Propane (74-98-6)	18.3			2.30	
Isobutane (75-28-5)	12.2			1.90	

MATERIAL	8-HOUR TIME WEIGHTED AVERAGE	ACCEPTABLE CEILING CONCENTRATION	ACCEPTABLE MAXIMUM PEAK ABOVE THE ACCEPTANCE CEILING CONCENTRATION FOR AN 8 HOUR SHIFT CONCENTRATION	MAXIMUM DURATION
Toluene	200 PPM	300 PPM	500 PPM	10 minutes

Section III — PHYSICAL DATA

BOILING RANGE NA

VAPOR DENSITY [X] HEAVIER. [ ] LIGHTER THAN AIR

EVAPORATION RATE [X] FASTER [ ] SLOWER, THAN ETHER

PERCENT VOLATILE BY VOLUME 85%

WEIGHT PER GALLON NA

Section IV — FIRE AND EXPLOSION HAZARD DATA

DOT CATEGORY Consumer Commodity ORMD

FLASH POINT 10° F. (TOC)

LEL See II

EXTINGUISHING MEDIA Use Carbon Dioxide, Dry Chemical or Foam.

UNUSUAL FIRE AND EXPLOSION HAZARDS Exposure to heat may cause bursting of aerosol can.

SPECIAL FIRE FIGHTING PROCEDURES Water spray may be ineffective. Water may be used to cool containers to prevent bursting. If water is used, fog nozzles are preferable. Wear goggles and self contained breathing apparatus.

Section V — HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE See II

EFFECTS OF OVEREXPOSURE

Toluene
(108-88-3)

Acute Overexposure - Overexposure can lead to central nervous system depression producing such effects as headache, dizziness, nausea, and loss of consciousness.
Eye Contact - Short-term liquid or vapor contact may result in slight eye irritation. Prolonged and repeated contact may be more irritating.
Skin Contact - Prolonged and repeated liquid contact can cause defatting and drying of the skin which may result in skin irritation and dermatitis.
Inhalation - High concentrations or prolonged to lower concentrations may be slightly irritating to mucous membranes.
Ingestion - Liquid ingestion may result in vomiting; aspiration (breathing) of vomitus into lungs must be avoided as even small quantities in the lungs may result in chemical pneumonitis and pulmonary edema/hemorrage.
Chronic Overexposure - Respiratory tract irritation, central nervous system depression in high concentrations, liver and kidney damage.
Brain cell damage may result from long term inhalation of toluene vapor.

EMERGENCY AND FIRST AID PROCEDURES

Eye Contact - Flush with water for 15 minutes while holding eyelids open. Get medical attention.
Skin Contact - Flush with water while removing contaminated clothing and shoes. Follow by washing with soap and water. Do not reuse clothing or shoes until cleaned. If irritation persists, get medical attention.
Inhalation - Remove victim to fresh air and provide oxygen if breathing is difficult. Give artificial respiration if not breathing. Get medical attention.
Ingestion - Do not induce vomiting. If vomiting occurs spontaneously, keep head below hips to prevent aspiration of liquid into lungs. Get medical attention.

EFFECTS OF OVEREXPOSURE

Varnish Makers & Painter Naptha
(8030-30-6)

Acute Overexposure - Central nervous system depression in high concentrations.
Eye Contact - May be an irritant.
Skin Contact - Prolonged or repeated contact may cause skin irritation.

EMERGENCY AND FIRST AID PROCEDURES

Eye Contact - Flush eyes with large quantities of water for at least 15 minutes and seek immediate medical attention.
Skin Contact - Wash affected area with soap and large quantities of water. Wash contaminated clothing before re-use.
Inhalation - If breathing difficulties, dizziness, or lightheadedness occur when working in areas with high vapor concentrations, victim should seek air free of vapors. If victim experiences continued breathing difficulties, administer oxygen until medical assistance can be rendered. If breathing stops, begin artificial respiration and seek immediate medical attention.
Ingestion - If swallowed, do not induce vomiting. Seek immediate medical advice and/or attention.

Section V — HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE See II

EFFECTS OF OVEREXPOSURE

Acetone
(67-64-1)

Acute Overexposure -
Eye Contact - Can cause severe irritation, redness, tearing, blurred vision.
Skin Contact - Prolonged or repeated contact can cause moderate irritation, defatting and dermatitis.
Inhalation - Excessive inhalation of vapors can cause nasal, and respiratory irritation, dizziness, weakness, fatigue, nausea, headache, possible unconsciousness and even asphyxiation.
Ingestion - Can cause gastrointestinal irritation, nausea, vomiting and diarria.
Chronic Overexposure - None Known

EMERGENCY AND FIRST AID PROCEDURES

Eye Contact - Flush eyes with large amounts of water, lifting upper and lower lids occasionally. Get medical attention.
Skin Contact - Thoroughly wash exposed area with soap and water. Remove contaminated clothing. Clean contaminated clothing prior to re-use.
Inhalation - If affected, remove individual to fresh air. If breathing is difficult, administer oxygen. If breathing has stopped, give artificial respiration. Keep victim warm, quiet and get medical attention.
Ingestion - Low toxicity - Induce vomiting if large quantities are ingested. Give two glasses of water, induce vomiting immediately by sticking finger down throat. Call a physician. Never give anything by mouth to an unconsciouss person.

EFFECTS OF OVEREXPOSURE

Xylene
(1330-20-7)

Accute Overexposure -
Eye Contact - May be an eye irritant.
Skin Contact - May cause skin irritation upon prolonged or repeated contact.
Inhalation - Irritant to upper respiratory system. Can cause headache, nausea, and dizziness.
Ingestion - May be harmfull if swallowed
Chronic Overexposure - Possible liver and kidney damage.

EMERGENCY AND FIRST AID PROCEDURES

Eye Contact - Flush eyes with large quantities of water for at least 15 minutes and seek immediate medical attention.
Skin Contact - Wash skin with soap and large quantities of water and seek medical attention if irritation from contact persists.
Inhalation - If breathing difficulties, dizziness, or lightheadedness occur when working in areas with high vapor concentrations, victim should seek air free of vapors. If victim experiences continued breathing difficulties, administer oxygen until medical assistance can be rendered. If breathing stops, begin artificial respiration and seek immediate medical attention.
Ingestion - If swallowed, do not induce vomiting. Seek immediate medical advice and/or attention.

Section V – HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE

EFFECTS OF OVEREXPOSURE

Mineral Spirits
(109-73-9)

Acute Overexposure - Can lead to central nervous system depression producing such effect as headache, dizziness, nausea, and loss of consciousness.
Eye Contact - Short term liquid or vapor contact may result in slight eye irritation. Prolonged and repeated contact may be more irritating.
Skin Contact - Prolonged and repeated liquid contact can cause defatting and drying of the skin which may result in skin irritation and dermatitis.
Inhalation - High concentrations or prolonged exposure to lower concentrations may be slightly irritating to mucous membranes.
Ingestion - Liquid ingestion may result in volmiting; aspiration (Breathing in) of liquid must be avoided as liquid contact with the lungs can result in chemical pneumonitis and pulmonary edema/hemorrage.

EMERGENCY AND FIRST AID PROCEDURES

Eye Contact- Flush with water. If persistent irritation occurs, get medical attention.
Skin Contact - Wash with soap and water. Remove contaminated clothing and do not reuse until laundered. If persistent irritation occurs, get medical attention.
Inhalation - Remove to fresh air and provide oxygen if breathing is difficult. Give artificial respiration if not breathing. Get medical attention.
Ingestion - Do not induce vomiting even though vomiting may occur. If vomiting occurs keep head below hips to prevent aspiration of liquid into lungs. Get medical attentio

Section VI — REACTIVITY DATA

STABILITY ☐ UNSTABLE ☒ STABLE
CONDITIONS TO AVOID Do not store above 120° F. Keep from sparks, pilot lights or open flame.
INCOMPATABILITY (Materials to avoid) None known
HAZARDOUS DECOMPOSITION PRODUCTS May produce hazardous fumes when heated to decomposition. Fumes may contain carbon dioxide and/or carbon monoxide.

HAZARDOUS POLYMERIZATION ☐ MAY OCCUR ☒ WILL NOT OCCUR
CONDITIONS TO AVOID NA

Section VII — SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED Remove all sources of ignition, avoid breathing vapors, ventilate area. Wipe up with inert materials and place in appropriate container.

WASTE DISPOSAL METHOD Do not incinerate aerosol. Dispose of in accordance with local, state and federal regulations. Do not place aerosol cans in home compactor. Do not puncture.

Section VIII — SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION Avoid continuous breathing of vapors and spray mist. A self contained breathing apparatus required for concentrations above TLV limits.

VENTILATION Use with adequate ventilation, sufficient to prevent inhalation of solvent vapors.

PROTECTIVE GLOVES Optional
EYE PROTECTION Only under conditions where spray mist might get into eyes.
OTHER PROTECTIVE EQUIPMENT

Section IX — SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING Do not store above 120° F. Exposure to heat or prolonged exposure to sun may cause bursting.

OTHER PRECAUTIONS Use only as directed. Intentional misuse by diliberately concentrating vapors and inhaling contents can be harmful or fatal.